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Original Articles.

LABORATORY METHODS OF DIAGNOSIS OF BRUCELLA  
INFECTIONS

By BRUCELLA LABORATORY COMMITTEE, U. S. LAKEVIEW, N.Y.

- (1) Bruce Committee
- (2) The Microscopic Test
- (3) The Bacteriological Test
- (4) The Mouse Test
- (5) The Mouse Pyrexia

I.—Bruce Committee

This has been placed first as it is the obvious process, the most reliable method of confirming the clinical diagnosis. For if a positive result is obtained there will, of course, be no doubt that a Brucella infection must exist.

The method which is about to be described has been found to be extremely reliable. To date, fourteen cases of confident fever have been investigated by this method, and from eleven of these fourteen cases *B. melitensis* was isolated from the peripheral blood.

Method.—(a) 5 to 10 c.c. of blood is withdrawn under very careful aseptic conditions and placed in a sterile tube. This is placed in the incubator until the blood has coagulated; the whole operation can best be accomplished by using a Baper Yonke No. 2.

(b) When blood has coagulated, all the serum is removed from the sample with a sterile Pasteur pipette; the serum is usually returned for agglutination tests.

(c) The clot is now removed and placed in a dish containing 100 c.c. of liver broth media, and the whole incubated at 37° C. The usual way of

### 3. *Examination Methods of Cultures of Erythrocytes*

containing the slides to be plated, a well-lit photomicrograph is taken from the outside (Fig. 1). The blood will adhere strongly to the very fine glass and is easily removed from the tube and introduced into the direct reader. When the slide has been placed in the lower reader the whole disk is shaken so as to break up the clot.

(d) Subcultures are made from the broth by plating 1 cc. on liver agar plates every three days up to twenty days from the day the blood was withdrawn. A negative result should not be reported until the length of time has elapsed.

The broth and liver agar cultures are incubated aerobically unless a *P* character infection is suspected. Agglutination tests on serum removed from blood to be cultured can usually supply the information. If agglutination tests are negative or inconclusive, then the broth is incubated in an atmosphere of  $\text{CO}_2$ .

A positive result in methylene infection is shown by the appearance of a growth on the plates, usually twenty-four to forty-eight hours after plating. The appearance of the colonies are typical; they look appear as discrete, pinpoint transparent dots. After forty-eight hours the colonies assume a pinhead growth more opaque and opaque but are quite transparent and well-delineated; they vary in size from between 1 to 3 mm. Certain differences with regard to culture strains have been noted on this respect. Some strains appear to form a majority of large colonies on primary isolation and some small.

In some cases a positive result is usually obtained at second subculture that is at the sixth day's plating; thus, therefore usually means that by the method a definite diagnosis is delayed for eight days.

In order to obtain a result more rapidly the following procedure was adopted: after broth had been incubated for forty-eight hours, 1 cc. was removed and placed in a sterile centrifuge tube. To this a little specific serum was added and the whole placed in the incubator for at least ten hours at  $37^{\circ}\text{C}$ . It was then removed and centrifuged at high speed and the deposit plated. It is advisable when using this method to employ an agglutinating serum with a very high titre, and to make certain that no content of complement is destroyed. The serum is added to the broth in amounts that will make certain of agglutination, but it is important that the volume of serum added should be as small as possible, hence the necessity of using one with a very high titre. We usually employ a serum with a titre of 1:1000, and the final dilution of this, when added to the broth, is 1:10,000, which means that 0.02 cc. only is added to 1 cc. of broth.

It was found that by using this method a confluent growth was obtained on the plate which could be usually detected twenty-four hours after plating, and sometimes within the period; also, positive results were obtained by this method from three to seven days sooner than by the simple plating method. The quickest result obtained in one case was merely six hours after withdrawal of the blood.

If either *S. melitensis* or *S. abortus* is grown in broth standardized to pH 7.5 the pH rises rapidly and after twelve or so days it will be found to have risen between 7.6 and 7.8. This property has been made use of when testing blood cultures. If the pH of the broth is found to be raised a positive result is to be expected. It is sometimes difficult to decide for how long a culture should be incubated before being pronounced negative as occasionally very long periods of incubation may be necessary before organisms of the Brucella group are isolated. It, however, the pH of the broth is found to be below 7.5 after the third week it is not likely that a positive result will be obtained. It is to be noted, however, that in one case of this series the broth was incubated for forty days before *S. melitensis* was isolated and also that this was the only example in which a positive result was given when the pH of the broth showed little or no increase. It has therefore been made a routine test to inoculate a culture on sterile media twenty days and if the pH has risen it is considered too long.

It has been stated by some workers that in cases in agglutination appears in the blood, blood-serum will be found to give negative results. If this is true Brucella organisms can only be isolated from the peripheral blood on a very early stage of the disease. Thus the statement seems foundationed in error by the results obtained with this method. In practically all the cases in which blood-serum gave positive results agglutination for Brucella organisms were found to be already present. Positive results have also been obtained by this method in a late stage of the disease as the fourth week. Such erroneous statements by these earlier observers probably result from the technique of blood cultures employed by them. None of their methods differed fundamentally in the fact that the serum was not removed from the blood.

That the serum has a marked inhibitory effect on the growth of *S. melitensis* has been proved by the fact that cultures made from whole blood gave negative results, when cultures made from clot alone gave positive. This effect was most marked when agglutination was present. It is also to be noted, that even when using the method already described, when the patient's serum showed a very high titre of agglutination to *S. melitensis* the organisms were only isolated from such blood after a prolonged incubation.

In one case (No. 7, see table) whose serum showed an agglutinating titre of 1/12800 for *S. melitensis* at the time of blood-culture a positive result was not obtained until the culture had been incubated for forty days in another case (No. 11, see table) whose blood also showed a titre of 1/25600 for *S. melitensis*, the organism was only isolated after twenty days incubation. It is to be noted that during the acute febrile state twenty one blood cultures were performed, from sixteen of which *S. melitensis* was isolated.

What appears to influence the results of blood-culture is not the duration of the disease but the stage of the process at the time when the

#### 4. *Agglutinating Methods in Diagnosis of Brucella Infection*

*Direct, rapid.* If the blood is withdrawn from the patient at a time when the pyrexial wave is on the rise the blood culture can be confidently expected to give a positive result and within a comparatively short time. If, however, the blood is cultured during an afebrile period a positive result may not be obtained until after incubating the culture for three months or more. McDermott states that in one case he did not obtain a growth of *B. melitensis* until after forty-seven days incubation. The longest time which elapsed between withdrawal of blood and presence of growth in one serum was sixty days. It is therefore apparent that the height of the fever has much less relation to the bacteriemia than the stage of the fever.

If the blood is cultured at the end of an afebrile period, even when there is no fever and just before the commencement of a pyrexial wave a positive result is usually obtained, and it will be obtained after a short period of incubation. If, however, the blood is cultured at the end of a pyrexial wave, even if it is withdrawn in the evening when there is greater or less degree of fever, the result will either be negative or else a positive result will only be obtained after a long period of incubation. There is a marked tendency in diagnosis by blood culture as frequently patients are admitted to hospital in the afebrile period. While this occurs the chance is practically limited to rely on the agglutination test for diagnosis. In one case of our series, injection of metacoccus vaccine—550 millions in a dose—was given during the afebrile period; this dose will usually be found to give rise to a febrile reaction, twenty-four hours later the blood was withdrawn and cultured, and by this method a positive result was obtained but not until after it had been incubated for nineteen days.

Thickened blood cultures, taken a few days before the dose of vaccine was administered, all gave negative results. It is advisable if this method is attempted to carry out agglutination tests first, as the injection of vaccine will not elicit an agglutinating response in the previous blood. If agglutination tests are negative then this method is not practicable.

For purely diagnostic reasons the method of withdrawing vaccines and following it up by blood-culture is never justified. It is, however, important for reasons of treatment to elude the organisms from every case of possible and to obtain it as early as possible, as it has been found that if vaccine treatment can be begun early excellent results will usually be obtained. The results with other than autogenous vaccines are unreliable.

Blood culture in chronic febrile cases usually gives negative results. The type of case generally follows a relapse, and is seldom met with except in rheumatic colicula. It would, therefore, appear that the fever in such cases is not due to a bacteremia, but to an actual overgrowth of the tissues of the patient by the infecting organisms. Case No. II is a good example of one of these chronic cases. He was originally admitted to hospital on July 23, 1911, in the acute stage of the disease, and *B. melitensis* was

collected from the patient in this case. It was obtained by drawing, and was made in the strongest form tested, then being checked back on work, on October 22, 1932.

The man was admitted on November 11 with a maximum degree of fever, temperature  $104^{\circ}\text{F}$ . He complained of severe rheumatic pains and looked very debilitated and ill, his condition from then on became gradually worse, the rheumatism became more acute and the fever more pronounced, but it will be seen that blood cultures at this time gave negative results.

Another type of case in which blood cultures may fail is the very mild abortive variety. Such cases usually only run a temperature for from five to seven days and then apparently completely recover. These cases are in all probability more common than is usually thought. The very mildness of the disease is enough to keep them in obscurity to the majority of our clinic and observation, and if they do they are not recognized. The frequency with which these cases are diagnosed as "relapse" or "a chill" would probably be increasing if only the truth were known. This is supported by the fact that agglutination to Huddell's infection was fairly frequently found to Huddell who gave no history of ever having had undulant fever. Careful inquiry, however, will usually elicit the fact that recently they have had an attack of influenza which has been followed by slight rheumatic symptoms. The reason why blood-cultures fail in these cases is because by the time they come under observation the bacteremia is at an end.

It has been emphasized that if the blood is taken at the onset or during the dominant wave of a subducing pyrexia, more than cultures will fail to isolate the infecting organism. It is evident that these very mild cases are seen before either of these stages are reached. Case No 12 was admitted to hospital on May 18, 1932. Out of five or eight days previously, this patient's temperature was  $104^{\circ}\text{F}$  on admission and he appeared so ill that the medical officer in charge placed him at once on the constant care list. Blood culture was performed on May 20, the patient's temperature had already begun to decline and reached normal four days after admission, since when it has remained practically normal. It will be seen from the table that the blood culture proved negative.

Case No 14 is also another example of the failure of blood culture if performed near the end of a subducing pyrexial wave. It is unfortunate that the culture, which theoretically should have succeeded in this case, became contaminated.

It has been stated by Huddell that he obtained better results when cultures were made out on the evening. For this reason this series was usually followed, but proved the blood was withdrawn at the correct stage of the fever it was found that the results varied little whether the culture was made on the morning or evening.

In the Table I am shown the results obtained by this method of blood culture.

1000

[illegible]



## II.—THE AGGLUTINATION TEST

Much confusion has existed in the past, and still exists, concerning the value and interpretation of this method of diagnosis of Brucella infections.

The cause of this confusion is largely accounted for by the fact that *B. abortus*, *brucinae* and *canis*, and *B. melitensis* are all most unstable organisms when kept in artificial culture in the laboratory.

It has already been shown that all these organisms agglutinate very easily and they even when primary infection gives rise to rough variants, it has also been demonstrated that these rough variants are antigenically distinct from the true smooth strains. (See Forster and Wilson, 1933.)

Another fact which has helped in the confusion has been that not until recently has it been realized that the antigenic components of these three Brucella organisms are probably similar qualitatively and that they only differ from each other in quantitative distribution. This fact has led to the most erroneous results from absorption tests, etc. (See Wilson and Miles 1932.)

It is therefore obvious that when testing an unknown serum for the presence of agglutinins to the Brucella group only pure smooth strains must be used.

The conditions therefore, essential for thorough reliability for agglutination tests for Brucella are as follows:—

(1) The test suspensions are made from strains that agglutinate in tubes with enough sera of both high and low titre. The strains from which the standard sera are to be made should give negative results in thermo-agglutination and cold agglutination tests, and they should not agglutinate in a rough or pure serum. They should be selected for their agglutinating powers. It will usually be found that amongst a number of smooth strains one or more will agglutinate better and to a higher titre than the other strains, this type of strain is the one to be selected for use as a test suspension.

Once a strain is selected it should be examined each time it is used before making the suspensions and it should be substituted as often as possible.

If strains are kept on liver agar slopes it will be found necessary to subculture them from time to time every two months.

(2) The suspensions to be used should be standardized in an opacity of 1/100 million Brucella to the cubic centimetre.

If neither conditions then then are used complete mixing may entirely confuse the result. The occurrence of a pro zone phenomenon appears to be very common with *B. melitensis* suspensions.

If stronger suspensions than that recommended are used, depositing occurs in the bottom of tube and the fluid above the deposit may fail to clear completely, making the result difficult to read.

(3) It is preferable to use mixed suspensions of strains and not the Deeper-dropping method.



The method found to give the most satisfactory results is as follows:

**Method**—Three rows of ten tubes, plus one extra tube in each row mounted are placed in a Waterbath. To each of these ten tubes are added 0.55 cc. of serum in following distances, 1/2, 1/18, 1/36, 1/45, 1/60, 1/180, 1/360, 1/540, 1/810, 1/1,260. Then 0.55 cc. of *B. anthracis* suspension is added to each tube in one row and 0.25 cc. *B. anthracis* serum and *B. anthracis* case, to each tube of the other two rows. The final distance of serum to each tube will therefore be: 1/18, 1/36, 1/45, 1/60, 1/180, 1/360, 1/540, 1/810, 1/1,260.

It is important that each successive dilution of serum should not differ too greatly. The reason why this is so emphasized is that quite frequently a serum has been tested which has been found to show a zone up to 1/60 and negative to 1/360, yet positive to 1/144. If the usual practice of setting out every second dilution had been practiced in this case, a negative result would have been obtained.

(3) The tubes are now incubated in a water-bath at 56°C. for six hours. It is advisable to use a covered bath, and not an open one, to prevent evaporation, owing to the length of time it is necessary to incubate.

(4) The tubes are now removed and the results read and noted. They are then allowed to stand at room temperature and the results read again; the second reading is taken as final. It is very important to take this second reading, as it has been repeatedly experienced that at the first reading a negative result has been found which on examination later has been found to be positive. Insulation for longer periods does not avoid this difficulty. There were which have shown this phenomenon have been incubated for as long as eighteen hours at 56°C., and still were found to show no agglutination until they had remained and cooled for some hours at room temperature.

(5) It is advisable when taking the readings to start with the tubes containing the highest dilution of serum and work down to the lowest. By working in the opposite direction, observers have been known to give wrong a positive result owing to the commence of zoning. Each tube should be examined with care and compared with its control. It is a common occurrence for agglutination to be found in only one tube of the series of ten.

The type of agglutination obtained is very fine and granular, which may be defined as so. If however the substance is used of the quality recommended, no difficulty will be found in reading the result as the negative tubes remain milky whereas the positive are shown by clearing and granulation. When a positive agglutination is obtained in the final dilution namely 1/810, a further series of tubes of higher dilutions are put up.

Over 400 such agglutination tests have been performed with this technique on both man and animals.

In all tests where a positive result was obtained, it was proved that

under a Brucella infection, had a crisis or not crisis with the exception of one case, a Mexican man who was admitted to hospital on June 17, 1935. It had been 10 days, the previous day with temperature 38.6° C., completely well of headache, temperature fell by type in three days and there has been no recurrence of fever since. Blood culture proved negative. This case was eventually diagnosed as scrubby fever and discharged from hospital on June 25, 1935.

The agglutination test was performed on June 18 and showed *B. melitensis* + 500. *B. abortus* lower and case + 1/80. This patient stated that his daughter had undulant fever two and a half years ago, but that he himself had never suffered from any fever as far as he remembered. However he gave a strong positive reaction to the gelatin test on June 24. This, therefore, probably that this patient had suffered from a subclinical infection in the past.

Other diseases an absolute severity of undulant fever but it is a mystery as to how such a disease was ever recognized. This patient's recent reaction was reported later on several occasions with the same result. The findings of the agglutination test on this case are as diverse as a Brucella infection in the past, especially when the result of the gelatin test is also considered. If however the results of these tests in this case were due to infection in the past it could not have been very distant, as otherwise a completely negative agglutination test would be expected. Demonstrable agglutination occurs present in the blood of an infected human for more than three years after recovery, and usually disappears within eighteen months to two years. It is therefore quite feasible and not unreasonable with the facts that this man was most probably infected about the same time as his daughter. If this case had been one of those acute abortive types of undulant fever occasionally met with it is unlikely that any agglutination would have been found so soon as twenty-four hours after the onset, also the fact that the agglutination was failed to show any subsequent rise and the blood culture being negative is against such a hypothesis. It is therefore considered, with regard to the value and interpretation of the results of the agglutination test in Brucella infection that any agglutination of a serum to a titre of 1/100 is highly significant, and that of 1/40 is a Brucella diagnosis of a Brucella infection at some time or another. The results of the agglutination test can also be relied upon to give fairly accurate evidence as to whether the case being dealt with is one of *B. melitensis* or *B. abortus* infection. In subclinical infections at least this will be found to be true. However sometimes at an early stage of the disease the serum of those suffering from *B. melitensis* infections agglutinates *B. abortus* to the same titre as *B. melitensis*. If further tests are carried out at a later date on these cases it will be usually found that the titre of the serum to *B. abortus* has dropped, but that of *B. melitensis* has risen or remained stationary.

Concerning the value of the agglutination test in indicating an early



diagnosis it has been found that over 80 per cent. of the cases of malarial fever develop agglutination in the peripheral blood by the end of the second week of the disease, positive results have been met with as early as the seventh day of the disease.

Experimental infections of guinea produced an agglutination response as soon as usual, as early as the fourth day, following the injection of liver cultures. The serum, however, he compared with cases of natural infection as the data given to the serologist were errors belonging and much greater than any likely to occur under natural conditions. When guinea pigs were infected by rubbing cultures of *B. malariae* over the abdomen about once of three animals took between three and five weeks before their serum gave a positive agglutination reaction.

To illustrate what has already been said a number of results of the agglutination tests as given in the serologic stages of malarial fever are shown in Table II.

It will be seen from the table that the earliest that any of the series of cases showed a positive agglutination test was seven days after the onset of symptoms.

The onset of malarial fever is so sudden that cases seldom come under observation sooner than the second week. It will be seen from the table that it has only been possible to examine these cases within seven days of the onset of symptoms, and of the three, two gave positive reactions. By the kindness of the Staff of the Central Civil Hospital, Malua, I was afforded the opportunity of testing three malarial fever cases by means of the hemagglutination test. Amongst the number of cases noted by this method only one was found in whom symptoms had been present for only one week and thus one would never have come under observation so early only for the fact that she was in the peripheral stage. Being in this stage her temperature had been regularly taken daily and found to be normal, consequently she was forwarded to hospital where the hemagglutination test gave a strong positive reaction. To date therefore only four cases have been examined serologically for the presence of agglutination within a week of the onset of symptoms and of these four three gave positive reactions.

Of the numerous agglutination tests carried out on malarial fever cases, so far only one has been met with who did not give a positive reaction by the end of the second week. This case is shown in the table, Case No. 1, and it will be seen that all agglutination tests on this case for Bacillus malariae remained negative as late as the thirty third day after the onset of symptoms.

One correlation has been traced between the rapidity with which agglutination was formed and the severity of the case; can any relation be said to exist between the amount of the patient and the agglutinating power of the serum. Very severe cases have been met with whose agglutinating titre was very high, namely 1:10,000 for *B. malariae*, but the serum of mild cases which recovered quickly has also been found to agglutinate

Heinrich Brunsdahl, Dallas, was cited. On January 17, 1932, Brunsdahl's agglutinins have been found to disappear fairly rapidly, about two days after recovery usually shows no agglutinins. The gradual fall of agglutinins is very usually met with on recovery from a moderately acute infection.

Occasionally the agglutinins will be found to disappear extremely rapidly, from the blood after recovery, and within three or four months no traces can be found in the serum of such cases.

One case of that nature, No. 5, showed the phenomenon. The onset of the illness in this patient was on January 21, 1932; he remained febrile until April 8, since when there has been no occurrence of fever. On February 12, the patient's agglutinins test showed *S. malthodis* 1:100, *S. shubertii*, 1:100, *S. abortus* test, 1:40 but on March 28 even before the fever had completely subsided, the agglutinins had almost disappeared. Agglutination test on March 26 showed *S. malthodis* 1:40, *S. shubertii*, 1:100 and none, negative. His serum also failed to agglutinate his own organisms which was isolated from his blood on February 12.

The manifestations of disease come out of extreme mildness and severity of attack; this type of case usually follows a relapse. For example, a patient was originally admitted to hospital on July 22, 1931, onset of illness July 14. Blood cultures July 29 = *S. malthodis* isolated in three days. This patient was treated with intravenous vaccines from August 14 to October 12, starting with a maximum dose of 0.75 c.c. of an emulsion 1:2000 indians per c.c., doses of 0.5 c.c., 0.55 c.c., 1.0 c.c., 1.25 c.c., 1.5 c.c. and 2.0 c.c. being given at weekly intervals; he was discharged cured on October 25.

He returned well until November 2, when he again reported sick, and was re-admitted to hospital on November 11, he was very ill and debilitated and complained of severe rheumatic pains in the legs, and had a moderate degree of fever. Temperature 102° F.

From December 7 to January 9, 1932, he received a further course of antagglutinin vaccines on the following doses given at weekly intervals: 0.5 c.c., 0.5 c.c., 0.75 c.c., 1.0 c.c. and 1.5 c.c. The patient's condition became worse following the course of vaccines, and his temperature, which prior to his having vaccines had been fluctuating between 100° F. and 101° F. was now fluctuating between 102° F. and 104° F. Blood cultures were all negative, uric acid reactions strongly positive.

This patient, although he was hardly ill and febrile, showed a steady fall in the agglutinins to zero, his serum-reactions showed little or no response to the vaccines he had received.

Such a condition possibly points to a blockage of the reticulo endothelial system, and this had probably been enhanced by the vaccine treatment which he received. Such cases usually show a polymorph coloring of the skin and there were extensive eruptions of eosinophil granules. This patient's skin was of a deep brown yellow tint and the urine contained uric acid.

affection. Treatment with radium, a continuous glucose injection and liver extract showed some improvement. He had to be discharged, however, on March 28, 1932, as his case in the Service had expired.

The condition there was still severe. He was still febrile but the temperature was on a lower grade, between 98° F. and 100° F., while his general condition was slightly improved, he still suffered acutely from thrombotic pains.

It is apparent from this example that if such cases are not long enough after the onset of their disease diagnosed by means of an application test will be impossible.

Such cases may possibly account for the statement by some observers that certain acute cases of Danella infections have shown an agglutination response, for these chronic cases appear clinically as very acute.

The diagnosis of these chronic cases may therefore be most difficult, and the only laboratory test which is liable to be of assistance is the reaction test, or perhaps the injection of susceptible animals with the patient's urine.

(To be concluded.)

#### WORK DONE SINCE AFFECTIONS OF THE THYMUS AND THEIR TREATMENT

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There are many reasons that conditions met with in those who arrive in have proved in the thymus which are easily recognized. We have selected some of the commonest skin diseases which pass through our Skin Department and quote the treatments which we have found successful.

**Acromioclavicular Gland Swelling.**—General swelling, being usually dependent on some systemic disease, arises, as of late, almost dermatologically than localized swelling. The latter type has certain reactions, either necrotic in origin where the skin has supplied by a particular cause progress fairly, or due to hyper activity of the sweat glands, especially on parts well looked by clothing as subject to chafing, or in the case of the groin, etc.

**Acromioclavicular Gland Swelling.**—General swelling, arising from some systemic disease.

**Treatment.**—This depends entirely of what stage of the disease one is concerned in the matter. General health must first receive attention. Increase of heat to the muscles, as pointed out by Unna, should be a basis on which to begin. This can be accomplished by prostatic stimulation, hot-water, etc.

The itching and burning soon is best treated by, (a) an ointment consisting of linimentum, and (b) covering up the parts treated by dressing powder. Finally, one, suspended in a pint of water, is both cheap and efficient, and after dabbing on the affected area should be allowed to dry and not covered. If the pains and sores are chiefly at least it is important to recognize whether it is a "hot sore" or a "cold sore." If hot, then wash the parts with weak borax solution, & hold better in hot water first, carefully dry the parts and apply

to Tincture's	—	50
Liniment	—	50
Compound	—	50
Fig. 1000	—	50

Local treatment must first be given by antibiotics and washing treatments to areas where decomposition has gone on to necrosis. Rubens ointment (English glands & vaccine 24) applied on lard is reliable.

Concomitant needs no special description and is often met with. Unfortunately treatment is not very satisfactory, but vigorous cleansing and sponging morning and night with 1:1000 penicillin spray will do much to relieve the condition.

Urticaria.—The treatment of this condition is twofold.—

(1) External urticaria—stinging nettles, the internal ones, either meat and vegetable substances, used in washing. Dry and clean clothes, &c., which may be changed as changed urticaria.

(2) Internal urticaria—poison removed by the skin by the blood stream such as drugs e.g. aspirin, and foods e.g. lobster, mushrooms, strawberries, &c.

(3) Rubens urticaria—primarily associated with infection or internal and external factors. It is worth while bearing in mind that numerous outbreaks of urticaria may often be an indication of liver disease, such as cirrhosis and gallstones.

Two varieties of urticaria to which special names have been given are *lenticular urticaria* (or *Urticaria papulosa*) and *Stellate urticaria*.

Treatment.—Generally determination of the cause is the remedy—and always an easy matter. Allergic conditions must be sought for and in the removal of urticaria with various factors substances are useful.

Drug treatment for urticaria is limited, although great is expected (Jellie, 1950, p. 116) being the best. Salicylate of soda is always worth a trial, and penicillin will be found helpful in all cases.

Rubens.—This infection is too common to need description. If any treatment being, in our experience more common than proper treatment, it is worth describing in some detail. There is a great temptation to create the sulphur bath and the hot state of the patient is often the standard cure. But the best, caused by the infection itself. We recommend the following routine.—

(5) Wash the patient in hot water containing sulphate of potassium 3 or to 40 grains of water. Allow the patient to soak thoroughly for twenty to thirty minutes, then thoroughly scrub him with a strong mild lark. (An attendant should do this to ensure thoroughness, and that all parts may be reached.) A further period of ten to fifteen minutes soaking should then be wanted on.

The patient is next rough towelled and rubbed all over with sulphur vaseline.

(6) While in the bath the patient's clothes should be steam disinfected, and besides clothing all bedding should be thoroughly treated.

The lark should be given once daily on three successive days, the treatment with sulphur vaseline being on the first day and once after bathing on the second and third days.

Disinfection of clothes and bedding should be done daily for three days. Any further irritation after this treatment is due to sulphur vaseline and not to lark. Discontinuation of the treatment will cure this.

**Fractures.**—This is usually a suppurative infection of the bone due to traumatic phloa. Any condition causing debility and so lowering the resistance of the individual is a predisposing factor.

Wound is so frequently followed by infections that the term "infected lark" is often used among patients from the tropics. Intensely large of the leg and arm is not an uncommon complication in children.

The arms of all patients suffering from leprosy should be tested for signs, as a laboratory physician seems to serve most.

**Treatment.**—Positioning and early incision are indispensable, indeed, incision in certain places such as the wrist, upper leg and arm primarily may be followed by such serious consequences as thrombophlebitis, cellulitis, necrosis even thrombosis, haemolytic septicaemia, pyæmia and even death.

Application of Esmarch's bandage and suitable plaster given excellent results. Cleansing with spirit or iodine of colour and then painting with pure carbolic acid covering with a pledget of cotton wool is excellent and should be repeated daily.

Application of a proprietary paste called "Don" and deep subcutaneous and intramuscular injections of sodium sulphate or sulphate butyrate 5% in 10 cc every two or five days has been found to be very successful in bad cases.

Various therapy (either shock or subcutaneous vacuum) is in use (perhaps more useful in chronic cases than in the acute condition).

**Tinea Capitis.**—Before doing so remember that a description would be impossible.

**Treatment.**—The first thing to be done is to cleanse the affected area thoroughly with soap and water. After so doing a variety of treatments may be tried, all of which are equally successful.



(1) Usually sufficient, preliminary bathing with lime solution to remove the ichthyoflag, or a 10 per cent solution of sodium hypochlorite (see 30) used.

(2) The following will then be found suitable applications:—

(1) Manganese solution

(2) White arsenic

℥. 30. Manganese	gr. 12. 75
℥. 30. Water	gr. 12. 75
℥. 30. Vinegar	gr. 12. 75
℥. 30. Oil of Turpentine	gr. 12. 75

(3) 1 per cent silver nitrate solution.

℥. 30. Silver Nitrate	gr. 12. 75
℥. 30. Water	gr. 12. 75
℥. 30. Vinegar	gr. 12. 75
℥. 30. Oil of Turpentine	gr. 12. 75

(4) Treatment of scales may be made on that of mixed scales but is not advised for Erysipelas.

A dusting powder made of equal parts of lime and, rose creosote and starch should be used freely when necessary.

—HARRIS' ROSE TART.—This is a dangerous disease in a very common occurrence abroad and presents an insidious character unless immediately treated. The usual fungus is an epidermophyte. Deceiving as a rule during the summer months it starts as a vesicular eruption on or between the feet in the hollow of the sole.

Treatment.—(1) Remove the epidermis by soaking well in hot salt water and then apply, night and morning:—

℥. 30. Salicylic Acid	gr. 12. 75
℥. 30. Glycerine	gr. 12. 75
℥. 30. Water	gr. 12. 75

(2) Chloroform ointment, or

℥. 30. Chloroform	gr. 12. 75
℥. 30. Glycerine	gr. 12. 75
℥. 30. Water	gr. 12. 75

This ointment stops itching etc. and should be rubbed in after washing the feet in soapy water. The feet should afterwards be bandaged.

It is important to change the socks frequently and these should be disinfectant before use.

—LIMBROCK'S DISEASE.—This infection has many other names but to avoid confusion and to associate the condition with the usual exposure we consider the above to be the best name.

Prevention.—(1) When the sore is small and evanescent provide clean socks and feet daily with hygienic soap.

(2) Inevitable eruptions of anatomy have in our hands proved disappointing, though the use of the standard treatment had done so this condition.

(3) Missions have obtained good results with Capote's ointment.

particularly in cases in the face. Presumably gangrene sometimes follows. Capsules—a preparation of chloroform means the methyl group, and is said to be pharmacologically three to five times stronger. It is a direct product.

(3) CO<sub>2</sub>, more 3, says, etc., have been tried with varying success.

(4) Local injection of Great (Rochester and sulphate) 3 per cent solution in distilled water may be used, the margins of the sore being infiltrated.

(5) Eucaine hydrochloride, 3 per cent, solution may be similarly used the area being afterwards sealed by a pad and sterile cotton-wool dressing. The treatment has, in my hands, been very successful in some cases, but there is a tendency for the sore to break down later when a second course of treatment is needed.

Whatever the mode of treatment it is a mistake to lose in sight that even chronic Ecthyma may disappear spontaneously in about twelve months.

In dealing with so vast a subject, as this disease it is obvious that in a paper of this length it is only possible for us to deal with a very few of the numerous conditions met with. The limitations are great but where does the province of the dermatologist begin and end? For obvious reasons cannot syphilis figure, its name is excluded and we have particularly refrained from touching on those forms of skin disease which necessitate the expert attention of a skin specialist.

## THE MEDICAL ASPECT OF THE HARTSHORN HILL TRUAM

By GEORGE LUTHERTON, F.R.C.S., MEDICAL OFFICER IN CHARGE.

The earthquake at Larnaca has, by now, passed into history. It is it may not be without interest to recall the part played by the British Navy which saved for them the fearful terrors of the Greek Government and its pretensions to state kindly the medical conditions found on arrival at the quay of the disaster and what steps were taken to deal with them. A brief review of these conditions are as first necessary.

The whole town of Larnaca lies on one side of a peninsula on the other side of which is the well known monastery of Monks Ashes. The inhabitants are mainly fisher folk, who earn a bare livelihood from the sea, along with an abundance from their catches helped by some land crops which grow sparingly in the neighbourhood. The whole population of Larnaca and the four straggling villages in its neighbourhood is a few thousand people. The village itself was mostly built into the side of a hill with the land church on top, while some small and straggling houses nestled their tottering way down to the beach.

It was late on the night of September 25, 1922, at 8.30 p.m., when the

proceedings and proceedings, people were all stupor-stricken and dumb, and their mouths were as cold as the ice of the country. In my opinion of the Greek situation, that the great catastrophe was inevitable. Apparently sudden as it came, in less than one month the peaceful, gay and happy little village lay in almost complete ruin and its citizens had lost a father, mother, wife or husband, or some relative.

The terrified inhabitants those who could leave fled from the buildings into the open and narrow little street, and there awaited a painful death in those that the full extent of misery and devastation. One can easily understand how they were affected—such great losses with terrible and almost overwhelming disaster hit them quite suddenly, quite hopelessly, almost dumb with grief, and a war torn population like that that the British Navy, with its efficient guard of three destroyers, was trying to



Fig. 1. The beach at the camp.

medical stores and medical officers, of which the British Empire is so rich, rushed through the night. We did not get there when we ought to, we argued when we left, but were with a feeling of expectation and relief as we got to the beach and as the dawn was beginning to break.

We found we were the first to arrive at the beach in boats. The young men showed us a light that we saw as a red light from the boat. Around the beach were several men, women and children who looked back at us helplessly, displayed no great interest. Their great need that their chance was so small, hopeless and almost helpless, they felt they had been crushed by the hand of an angry God.

We immediately got into touch with the red crossmen and found a Greek doctor who fortunately spoke French. From him we learned that about 150 had been killed and 300 injured. The women and nearly injured cases had been taken to Pithouli and the victims had been buried. There

were many more in the ruins, but the people were too panic-stricken to approach them and try to recover the bodies. Accompanied by the Greek doctor, we went a bit inland and found a large field near what was once the school house. Here we decided to have a first aid tent. There were many casualties still in the village and we could get no transportation as to the postoffice in the outlying villages were some miles away. The other doctors and the Greek hospital ship *Atika* arrived early in the morning, followed by R. M. S. *Assoluto* and R. M. S. *Esmeralda*. Four Greek doctors and five nurses were on board the *Atika*.

The immediate necessities of the population were food and water, and these were lacking as soon as possible. All their own stores were buried in the ruins and some of them were nearly starving. After the first aid tent had been carried two more tents were put up for use as make and linens sheds. The *Atika*, leaving the doctors and nurses and some stores, sailed later in the day for Salamina carrying some of the more seriously injured.

Accommodation for about fifty more was now ready on shore. Medical and working parties were then dispatched to Fátima and Martin; the outlying villages, and returned later in the day bringing in about twenty more. They reported the damage had been comparatively slight; the reported deaths having been lost by falling stones. Our personnel tried to inspire the native population with confidence and courage, and they now came forward in large numbers for food and treatment. Most of the men were old civilians and some sailors, though one little boy was suffering from convulsions. There was general onset of malaria and two of pneumonia, due no doubt to weakness and exposure. Very soon the hospital accommodation was being taxed to the utmost.

From a medical point of view the most important duty was to keep the remaining dead and to test the water supply, which we found had been contaminated, having in mind the possibility of an outbreak of typhoid fever, this was done as soon as possible. In the second day disinfection parties were proceeding with the extremely dangerous work of flaming down the ruined houses and burying the dead who were found there. The number of unburied was reported to be between twenty-five and thirty. The work of burial was most unpleasant, as some of the bodies were dreadfully exposed and badly decomposed. The working party wore bandages round its nose over the nose and mouth. The disinfection party started to work about 11.30 a.m. and bodies were being recovered all day, placed on stretchers and taken to the cemetery which was thoroughly disinfected.

Lividity still continued at intervals all through the first day, this adding to the terror of the population. The Greek medical staff set to work with a will, and the dead natives, speaking English, were invaluable in telling us how much medical stores they required. Most of the wounds had turned septic, so that large amounts of iodo, drainage and antiseptic lotions were wanted.

In response to the inquiry the Graduate had spent in preparing the disaster with its victims and instruments of completion. Their great study by was hydrocarbon particles which they used in enormous quantities. The disaster in the disaster was surprisingly good, everything being well stored, and they dealt most efficiently with an infinite variety of injuries. Cases were coming to quickly, mostly consisting of shock and chest distress, as the entire population had stayed and slept in the open space the earthquake. At the end of the first day a great change had come over the scene. Our men had thrown themselves heart and soul into the work, all the serious men had been examined, all the minor injuries had been treated, and the hospital which was growing in size as more tents were erected was being filled with bed cases.

The immediate change of weather with a sudden drop of night temperature



Fig. 1. Scene of destruction following earthquake.

was not soon due to commence and any outbreak of disease would undoubtedly have caused havoc in its untreated and already weakened population rendered incapable of resistance by exposure and lack of the bare necessities of life. It is almost a shame to say that in a disaster of this nature subsequent illness following on sanitary conditions may cause more loss of life than the disaster itself. As far as we know no death from such causes occurred. In no case was there in the highest tribute that can be paid to the method work done at Iquitos.

The next morning the task of the dead was halted and the work of blowing down the cases by explosives was continued. By that evening all the medical arrangements were in full swing and working satisfactorily. Saturday and Sunday were devoted to building temporary shelters for the homeless, and on Sunday night H. M. S. Association left Iquitos for Mollendo, having been provided by the disaster. H. M. S. Reserve making a day

or two larger silk puparia which were still badly needed, and then the remaining work was left to the Greek aphidivores.

In a short while the time I have been able to do no more than give an idea of the conditions as they were and how we tried to combat them. The village has a sense of life and endeavor as we left—as strange contrast to all around—and we left them working as men basking up what the catastrophe had destroyed.

The experience was of the greatest interest to us and we look back with satisfaction on the results of our collectors. We carried away with us the deep gratitude of the poor-stricken community, and assurance of a tragedy that we shall never forget.

### INSECTS AND DISEASE

By WILLIAM D. BARNARD, J. D. WARD, D. F. G. B. E.

THE role that insects play in the transmission of disease from animals to man and from one human patient to another is becoming more and more recognized as the etiological factors of many diseases are slowly but surely determined. While it is well known that insects are concerned in the spread of such a number of infections or infectious diseases for example, diphtheria, measles, fever and typhus, it is in the tropics and subtropics that their importance in this respect is most noticeable. There are several reasons for this. The majority of infectious agents outside the tropics are due to bacteria or other micro-organisms which require an intermediate host for their continued existence. The mosquitoes are a causal organism in many lesions in the human body, but it needs no insect vector to cause a streptococcal infection from one person to another. In the same way diseases of the nature group, though undoubtedly sometimes caused by organisms carried on the bodies of flies and then deposited on food, are nevertheless usually disseminated without the aid of insects. When one takes into consideration those diseases such as malaria, typhus, dengue, diphtheria and filariasis which are generally endemic in the tropics, the most outstanding feature in their etiology is the necessity for some variety of agent to transmit the causal organism from one human subject to another. Furthermore when one considers the organisms which are responsible for a large number of these tropical infections, one finds that many are not bacteria at all but members of that important group of animals called Protozoa which cannot be conveyed directly from one person to another. In these circumstances some form of intermediate host is essential and we find that, so far as protozoal diseases are concerned, this important role is usually played by insects. The mosquito may belong to one of various orders, such for example as *Culex* (family Culexidae) *Anopheles* (family

*Trypanosoma (Leish.)* *degeneri* (Leish.), all of which are included in the class *Protozoa*. Insects, though they are not insects, behave in much the same manner and for all practical purposes may be considered as such. (They belong to an entirely different class, the *Arachnida*.)

Insects are present both in increased numbers and variety in the tropics where climatic conditions are favorable to their existence and propagation. The temperature and relative humidity of the air are each of considerable importance in the development of organisms on their intermediate hosts. In those places where conditions are unsuitable to the particular insect responsible for transmitting the causative agent, then the disease will either not be present or, if present, will probably die out. The malarial parasite will not develop within the mosquito at low temperatures and it is said that the optimum temperature for the development of the yellow-fever virus in the body of the mosquito occurred at its temperature is about 76° F. It is not surprising, therefore, after taking these factors into consideration for land it is in the tropical and sub-tropical regions of the world that the medical entomologist has most opportunity for studying the relationship between insects and diseases.

A study of the geographical distribution of tropical diseases is full of interest. While some are prevalent in many districts where the conditions are more or less similar there are many found only in limited areas and not at all in other places, in spite of climatic conditions appearing perfectly favorable. Investigations have shown that in many instances this variation in distribution depends upon the presence or absence of particular insects. Malaria is an example of a disease very widely distributed, but it is only endemic in those situations limited by a certain genus of mosquito, *Anopheles*. There are islands in the tropics which are entirely free from malaria solely because the variety of mosquito is absent and though every other condition appears favorable to the spread of the infection yet the introduction of a malarial case will prove of no danger to the remainder of the inhabitants. Other types of mosquito probably abound but they are incapable of conveying the malarial parasite from one person to another. Barbadoes had long been free from malaria, but in 1907 a species of mosquito was introduced into the island and the disease soon made itself felt. In certain of the South Pacific islands malaria does not occur although where it is rare. This variability is fully explained by the presence or absence of the anopheline mosquitoes. From this it will be evident that in those places where anophelines do exist, but malaria is absent, the introduction of patients suffering from the infection is fraught with danger.

With the exception of a few areas in American yellow fever is now almost entirely restricted to the West Coast of Africa. The only known source of the yellow fever virus is a particular species of mosquito, *Aedes*

exposure, which isolates these parts, and the disease does not even escape in the lesions of this receptacle. In the course of many experiments, it has been shown that the virus causing dengue is conveyed by the same mosquito through the usual organism responsible for dengue has not yet been determined. The cause of phlebotomus fever also remains under cover, though it has been proved that this genus too, is transmitted by a fly, in this case a sandfly *Phlebotomus papatasi*. In Germany where *P. papatasi* is unknown the disease does not occur. Phlebotomus fever covers a wide range, which is to be expected when one considers the fairly extensive distribution of the genus *Phlebotomus*. Relapsing fever, due to the presence in the blood of *Trypanosoma*, is spread by different transmitting agents in various parts of the world: in Europe, Asia and North America it is conveyed by lice (*Poliocha tumens*), while in Central Africa it is spread by ticks (*Gambusia*). We see, therefore, that the spread of many tropical diseases and their geographical distribution is entirely dependent on the presence or absence of the insects concerned in the transmission of these animal organisms.

Dengue sleeping sickness is confined to those districts bordering the Amazon in the genus *Ochroera* (later found) and though trypanosomiasis is unknown in many other regions in the tropics it is easily transmissible to suppose that even these find a number of patients introduced into a country, such as India, which is free of sleeping sickness, the disease would very soon pass a foothold. Nature has provided a barrier between India and Central Africa of hundreds of miles of ocean, and the limitation of many diseases to certain well defined areas is frequently explained by the presence of natural barriers, whether they be oceans, rivers, or mountain ranges, which have successfully prevented the intercommunication of such carriers between neighbouring countries.

Though it is the professed intention and disease due to trypanosoma that are most dependent on insects for their spread there are others like plague and tuberculosis caused by bacteria which are commonly transmitted by insects, these being responsible for the majority of plague epidemics and a blood-sucking fly *Ceratopogon* described for the dissemination of *A. brucei*. But, as a rule, in the case of bacterial infections, the disease is spread by methods other than by insects and, because in the spread of bacterial diseases no intermediate hosts are required, and the germs in their passage from one host to another require no special atmospheric conditions, we find that these infections are capable of working on any part of the world. There is one of the main points of distinction between bacterial and protozoan diseases.

It might be expected from an elementary knowledge of the anatomy of insects that the usual ways in which it is possible for them to transmit the germs of disease. In some cases, as with yellow fever, malaria,



humans, and during the virus is conveyed by the bite of infected mosquitoes. Following a certain degree of development which takes place within the mosquito the organisms make their way to the salivary glands whence they pass into the wound made by the piercing organs of the fly's proboscis. When, as in these instances, an intermediate host is concerned a certain period, varying with the different organisms, must elapse before the insect which has fed on an infected patient is capable of passing on the infection to a healthy subject. As a rule this incubation period is approximately one or two weeks: in phlebotomus fever it is about six days; in dengue and yellow fever about twelve days; in typhus caused by *Phlebotomus* twelve to twenty days. But it varies to some extent according to atmospheric conditions, warmth usually decreasing the incubation period whilst cold prolongs it. The parasite causing the European form of relapsing fever is normally transmitted by lice, in the bodies of which the trepanema undergoes a certain degree of development. Lice which have fed on the blood of patients with this disease are not infective until about the sixteenth day after feeding. When as the result of scratching set up by the irritation of their bite, the organisms, which have been passed in the faeces of the louse, are rubbed into the skin, or the lice themselves are accidentally crushed with exactly the same result. Typhus also is conveyed by lice and the virus in this case, too, probably undergoes a similar developmental process, for the louse is not infective until about four days have elapsed since it fed on human blood.

Another mode of transmission is what is called mechanical transmission in the parasite becomes accidentally attached to some portion of the insect's body and is carried about in this way until it either falls or is rubbed off. Theoretically, all insects are capable of thus disseminating germs of disease, but it is only in certain cases that this method is of any medical importance. The chief louse concerned is the mechanical transmission of disease being to the human *Varroa*, *Sorophagus*, *Ceratophagus* and *Tubicolus* which frequently breed in dung and human excreta whence they creep started to persons on their legs and mouth parts for as fast as one part of their bodies only to deposit them on our human host that may be left exposed. This is doubtless the cause of many gastric intestinal disorders, especially in the warmer seasons, months when the flies are most numerous. Many forms of diseases, either simple catarrhs, diarrhoea or dysentery, may not infrequently be attributable to these flies. Apart from the ordinary method of carrying germs on their bodies they are also capable of conveying them in their faeces, whence they are excreted either in the faeces or in the result of regurgitation—a not uncommon habit exhibited by these insects. In 1889 Moser-Holt demonstrated dysentery bacilli in considerable numbers in the intestinal tract of horses then taken in an endemic area (Blancet's Tropical Diseases).

1929, and it is likely, perhaps, that other organisms have come up and in a similar manner. Even the eggs of *Parasitic Isotaphus* have been demonstrated in the feces of flies.

In plagues, though it is the flea which is responsible for passing on the disease from one subject to another, the actual processes involved are precisely the same, the flea being conveyed either on the feces produced and ingested when it bites or through the medium of its legs when they may become scratched into some abrasion on the skin. Further it has been shown that the flea's proventriculus continuously becomes loaded with masses of *B. paste* which are regurgitated when the insect feeds.

Closely connected with the subject of flies and disease is a group of infections caused by the larvae of *Siphonura* species and included under the term Myiasis. The larva responsible for these infections mostly belong to the Tachinidae flies which occasionally deposit their eggs in various parts of the human body. Thus we have nasal, ear, subcutaneous and intestinal myiasis. *Olfactoria desclages* appear especially to attract these flies and it was ready to understand how the nasal, ear and eye varieties of these infections are brought about. In the case of subcutaneous myiasis the larva, in one way or another, deposited on the skin, which then penetrates and burrows, which the insectance becomes, causing great pain. Again there are certain blood sucking larvae which bite during the daytime and emerge to feed at night. The *Cimex lectularius*, which is widely distributed in tropical Africa and in the larval stage of *Anopheles* *leishman*, is an example of a blood sucking larva growing out to this form of myiasis. Finally larvae may develop in man's clothing following the ingestion of food contaminated with the eggs of various of these flies. In Europe the larva of a fly *Phoroc. consociatus* containing the myiasis is frequently a cause of intestinal myiasis.

Flies, therefore, play a great part in the disease of man and it is not surprising that many infections, mainly tropical, which are now of doubtful etiology will eventually be proved to be connected with the life and distribution of the members of this widely scattered class.

#### CHUNGKING.

At BEIJING, LINTHROPE, CHUNGKING, 1. CHUNGKING, 1931.

CHUNGKING, which is really three towns in one, is situated on a peninsula 1,500 miles up the Yangtze River. At first glance it seems like an island surrounded by the Kuang Shu River on one side and the Yangtze on the other. The town, spread as it were on three fingers of land, forms a wonderful sight of densely packed buildings surrounded by a high wall which stretches all round the city. The huge city, built on the island, sits out with continual excitement, and partly merits its title of "Lanchow of the East."

district of old Yuen. The great Fourth Kingdom's famous religious fairs at Yuen are one of the great fairs and markets in China and considered the fourth most thickly populated in the world.

All varying materials form the water's edge by the city, and these in long flights of steps, these are traversed by endless surging hordes of people, and to the ends of poles, to the waving poles below, or to the steps above. The water carries them an endless procession; they carry over thousands two wooden buckets one at each end of a bamboo pole along across the shoulders filled with the yellow muddy water. Practically all the water used in the city is carried upon this system. Due to the water currents the steps are always wet and slippery. From a distance, the scene is one of a perpetual up and down motion, like ants working their mounds, with the difference ants have a distinguished right of way—these men play no such game. As one draws near the scene of even business men are confused. Surrounding the water's edge are masses of people. On each side of the steps are houses, made of wood guanoing and bamboo that cling to each other for support like a house made of cards and put in a permanent "jag, shakedown," under an unceasing dog, children make—all want to pass each other on the steps. One instinctively feels the current about currents. As they hurry towards you—their progress constantly slow because of the mass of people—one man's step or a lot of dry work, not too lively, and says that no "business" is being— all desired.

It is with a feeling of anxiety that one sees in a chair—the position of terror as one is loaded by the parallel bamboo poles attached to the chair on to the wooden slabs that is alleviated by the fact that to walk each step would be to court death natural or badly dressed—a chair is the horse of the two ends. The steps are steep and the chairs get tilted back at a most uncomfortable angle, the hardness of the protruding chair back is such that one wonders if the people at your own chair will hold. The steps should not be crossed with horses that it seems impossible to stand one's way along, but the "how how" from one's wooden chair is a small passage and eventually without meeting you approach the end of the flight of steps. One is best guided by the chairmen—there are all at a level, just, these chairmen move so well that no bumping motion is communicated to the occupant.

On the opposite bank of the river from Chungking, if you climbed the steep hillside you obtained a wonderful view on a fine day, but due to the position of the mountains there are low and flat between. A cloud belt covers the area, the low weather is of a few days duration and then winds, fog and rain blot out the landscape for several days, that was our experience during our stay in July.

Very few foreigners walk any distance in Chungking. One must have either a chair or a pony to enable you to reach your destination. These people are well built plucky little chaps, they stand about twelve hands and are very well dressed and game. Every afternoon twenty or

most picturesque sight to gaze on the side of the old cobble-strewn steep, with pony and its attendant riders waiting for the riders to return before a pony could be hired for any dollar for the afternoon. Around the cobbled and broken left bank to be desired. The pony was first charged up to struggle but then did not trouble the temporary driver. One of these steps led from the bank up the almost perpendicular face of the cliff, along these the ponies rattled. The sides of hills were which most Chinese owners surrounded the ponies' necks were the necessary to stand still, the people of the hills and the mass of the hill-side look on the stones lead a person up to the landscape as it stretches along.

At first it seems costly to attempt to urge the pony along the steep



Fig. 1. L. B. P. S. See (Fig. 1, p. 11)

side of steep that from the present of the steep and "hill" the ponies were ascending or descending, rocks light of the long stone stairways some of the sides are very steep, and others are more moderate. Along the narrow path-way, all over the pony gallops, probably on the outside. Therefore it was to the land of country and its greater difficulties in one's journey one has a perpetual dread of what might happen if the pony should slip or stumble. Apart from trailing over a rocky hill there was the risk of heading down the steep sides of the hills. There was always the risk too of meeting either a deer, a porcupine or a snake, round the corner.

Try as one might to hurry, to one's destination, the mule was always there before you—having run all the way by dozens of miles—to take the pony from the rider. Even if one did not tell the mule where one was

and most important thing—the government printing—has been finished.

After dinner, we did not have a chance to do any more of our study for this morning, so the publisher began to print. He, as all other shop masters, sitting by himself, there were interested, the village in general and both of us were not doing any other work in the evening. The sides of the table were covered with books and stacks of paper like a postwork quilt. Away in the distance through the trees—Chongqing and the River, we saw that only the rapid speed of the paper down stream looked as if it were

A group of workers were in great stacks of work, one between each page, up the narrow path. They had caught them from the river's edge. One or two pushed them from under the bamboo, then we could not compare of a short time with a small hole found at one end for the bamboo and at the other end for the worker's mouth. A group of bamboo men, after they had the hole at the end with a small "pill" of bamboo from a bamboo plant along the river, the highest bamboo, and it applied to the end of the page—two wheels—the one handled out and the other in, the page began all over again. This is repeated about eight or ten times the work is then finished.

On the way back to the shop we had to pass through a small village. At least where there are many small "pools" in a street, there are open doors. These houses had a curtain that had to be pulled away over the doorway. All the other shops in the village opened on the street and looked as if they were in the full glow of the night. If you pulled the curtain aside and stepped into the room you had to wait until your eyes became accustomed to the glow. A small light bulb turned on and all the room. Along the sides of the wall were many small wooden frames of a different width to make the occupant to be with his hand on the ledge along the wall. The lights were up and he was sitting on the edge of the "bench".

A small oil burning lamp lay along the wall and the room was very warm. There were many lamps. The paper were held over the lamp, and during the process of writing the owner should not, in addition, draw any attention. Some of the workers by mistake, their faces just disappeared in the glow their lamps extinguished—they were stopped. The light from the other lamps was so very, especially on the sides of the workers. A student turned when the light suddenly lit, thinking, explaining a page or two more a lamp. Only separated from the lamp stood by a curtain the atmosphere of the "day" was quiet and peaceful—no stirring, perhaps for the last time. The young, old and middle aged were in the paper. The workers I knew I saw, much that cannot be written to the memory I showed in the picture. I had to push my way through the great bamboo-covered that covered the room for my exit.

Shanghai is a great paper-growing center. It is one of the best

products. The day of their investigation passed uneventfully and ended. To the surprise of the Chinese watching the ship another Japanese government frigate came to anchor abreast of us. Oncoming to Hankow. Two captured boatsmen, with us the First Lieutenant.

The morning after we left Chungking, a search of the whole ship was ordered. As first various search parties drove blind, but as the Chinese navigation part of the main deck crew was picked up systematically and the treasure run to work. Opium was found in wooden boxes, paper bundles, neatly tied with string, on downy pillows. Underneath a layer of lapping at the bottom of the innermost cover by two or three inches, four or five boxes, by sugar. Many packets of it were discovered in the tea, and underneath a couple of rice among the papers in the office, and last



Opium and other items in Chungking, China.

but not least between the covers of a thick book. The book had a square red silk pad inside the edges of the leaves. This was filled with powder, the cover of the book acted as an excellent lining. When the cover was challenged he replied as follows. Roughly the gist of it being that many of his Chinese friends suffered from pain and he knew that a medicine made from opium was a very good cure. He was hoping to pick up the gold in Hankow. Many packets of the drug were discovered and we had quite an amazing treasure haul. The bulk was eventually thrown over the side on the way down the Ganges. It was rough and ready justice.

Besides inventing opium, smoking is one of the great vices producing misery in China. Some of us, during a trip round the city, dropped into a No. 1 with merchant's shop. We were led upstairs to a large, well lit,



It is usually necessary and convenient to pay a visit to a foreign hospital, and to compare its methods of administration and general equipment with that which are accustomed with already.

At Colombo the hospital staff consists of British Indians, who in addition to performing professional work, are responsible also for organizing such classes of clinical instruction for students as are connected with a medical school. The students and nursing sisters, the latter being attached to the "training sisters" are British, and mostly London trained. Patients in the system of non-paying patients are cared for by some of the Franciscan order, as at Madras and elsewhere in Ceylon. All members of the medical staff, nursing and other staff are salaried and the hospital is maintained by them from private patients and by a Government grant.

Physicians and surgeons are requested to be in possession of a diploma, within a specified period, either of the diploma of membership or of fellowship of the Royal College of Physicians or Surgeons of Great Britain.

Dr. de Silva, himself was a house surgeon in the hospital in the superintendent, and he was good enough to spend several hours in showing us over the various departments.

The general standard of work has seemed to be uniformly high and students who demonstrate great enthusiasm for their work.

Operating theaters are well equipped, carefully designed and arranged and instead of rubble, respectfully devoted to granulology, general surgery and to obstetric literature.

Getting to the remote dorsal of nucleus for surgical interventions, to open, test bonyous pathway, and surgery is difficult to obtain and therefore general anesthesia for neuroleptanesthesia is viewed more favorably than methods of local anesthesia.

In the pathological department, Dr. de Babin had very thoughtfully arranged for several microscopes, and pathological specimens to be displayed from a illustrated tropical medicine by Dr. Lyles, as produced by cases submitted to the hospital.

In the laboratory, a female had a row of macroscopic diseminating horizontally oriented striations of blood lines whereas could be photographed. In addition, a date and incubated eggs of benign tumor striations, of embryology and macroscopic development and the ' blood ' incubation of *P. mactans* in the aquatic type, as well as several of the with young maps in all these samples of blood. In incubation systems, here, to describe, the first





are all required to maintain this hospital in a state of adequate working efficiency.

In the afternoon, after lunch and a drive round the grounds of Fort Reid with Dr. Mackenzie, I was shown the x-ray department.

For many diagnoses, the preparation already employed (Kneidel's non-toxic preparation), is substituted as a 20 per cent solution (alcohol-free), shown fifteen minutes before taking the photograph. For differential determination of lesions and abnormalities of the gastric-intestinal tract, use is made of Kneidel's, specially prepared barium sulphate, of which 200 grains are mixed with 300 c.c. of slightly warmed water (the mixture, which the patient drinks has a milk-like quality). Expositions are then made at intervals of 1, 2, 4 to 12 and 24 hours. With the aid of this technique Dr. Mackenzie made a collection of extremely good photographs which clearly showed the abnormalities typical of gastric and duodenal ulceration, carcinoma, etc., with associated distortion of shadow outlines and of unusual mobility and rate of emptying of the gastric-intestinal tract.

Prior to operation, the usual general preparation is carried out.

On the night preceding the operation the patient is kept on 1 to 1½ g. of atropin in glycerol. Half an hour before operation an injection of atropine-sulphate is administered, and anesthesia is induced by the 11776 method, which has given immensely satisfactory results, practically obviating the use of chloroform, although ether is frequently employed in the theatre to supplement the effects of atropine.

Dr. Mackenzie keeps a 20 per cent. stock solution of acetate ready for use. It is maintained at the blood temperature, or otherwise, if allowed to become cold, crystallization would occur. For administration, the volume taken depends on the weight of the patient in pounds corresponding to 1 g. of acetate for each pound of body-weight, or to 20 c.c. of the solution. The amount of acetate solution thus obtained by calculation is then diluted for five minutes, and 5 c.c. of it, in 5 drops of orange-red solution is added. All as well as the acetate remains unchanged, but if the colour changes to blue, due to acidity it is necessary to repeat the whole of the acetate solution and make up a fresh supply.

To the total bulk of acetate solution required for anesthesia, 20 to 40 cc. of 20 per cent. solution of magnesium sulphate is now added, the whole being carefully kept at blood temperature. The mixture is finally administered 15 to 20 minutes prior to commencement of the operation. Theoretically there has been a tendency to some respiratory failure, and, if no treatment occurs an anæsthetic death is probable. If there is a definite fall in blood pressure, speak up, hyperventilate, or usually stimulate.

I am greatly indebted to Dr. de Vries and to Dr. Mackenzie for all the trouble they took in showing me over their respective hospitals and also for their permission to use these brief notes.

Journal of Management Education 34(1)

### CONTRIBUTION OF INDIVIDUAL ORGANS TO TOTAL AND VISCERAL THERMOGENESIS

Journal of Management Education 33(10): 1139-1150

[illegible]

[illegible]

There was no apparent distention of the liver capsule, and a pleural lesion was not observed. A small red glazed area was noted on the left branch and there was a definite yellowish discoloration of the area.

Treatment with all remaining centrally-acting anticholinergics and was directed towards maintaining the patient's condition as far as possible and maintaining the system.

The maximum turnover grew rapidly from 1960 to 1969, the years depicted, respectively 400, 5000, 10000 and 15000 kg dry weight to the following amount of the nearest day.

The entire range of bus sizes is built based on just two days.

**Robert M. Anderson** *University of Michigan*

**Diene and Squalene Oil**—There was a large contamination which included the diene residue in the left squalene tube; this was partially caused by generous pouring. The right squalene tube was covered by the addition of 4 grams squalene to give which lay in the squalene tube. The fluid in the squalene tube was filtered.

*Indigonea*.—The lower part of a branching yellowish colony

Subsequently the trees of the mangrove and the other regular, many were damaged, some had even showed serious, during the existence of water, particularly on the other side of the river.

**THEORY**—There were strong  $p < 0.001$  correlations between the types of the left pleural fluid, serum, sputa, effusions, and presence of tumor masses—(cellular, malignant masses).

There was an increase in the life span of females when extended open the rosette faced down to the ground (table 4). It extended about a year of female survival, measured as whole plant survival.

They were present in the terms: 1 of head and left leg the left side was hyper-extended on extension and no movement was localized.

A small oval hyacinth was present on the left side. The skin exposed, and all

It contains two layers of dense matter and is held in place by the strong force and heat.

**Comment.**—The signs and symptoms during the latter part of the illness in the light of the previous history and course suggested a cerebral vascular lesion, possibly complicated by acute cryptogenic meningitis, and towards the end by atrophy of the liver. The most characteristic of the syndrome was not recognized during the

The oldest level in the plot is generally regarded as relative to the *Black Sea and Bosphorus*.

**WILLIAMSON, JAMES L.**

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

This photograph of the back of a young female olive-backed parakeet is somewhat of a duplicate which took place while on camp at Williamsburg, Va. on August 1923.

It was at this point, a bright red hyperemia of the face and disposition as shown slightly high, indicating a showed a slight too disposition. It remained as this condition for about ten days, when a returned the value is "which as only



feels pain. There had been a loss of weight of 1 stone during the last year months. He was placed in bed in the next day and kept under observation.

The temperature 100 in axilla and 104.0 evening and remained so until the fourth day, when it rose to 104.7° F. the pulse was running from 90 to 100 the whole time and the temperature had 98 to 99. He then developed a slight morning cough but was otherwise quiet.

On the second day inspiratory crackling was heard at the right upper lobe and moist rales on the lower and third right interspace, nothing abnormal being detected on the left lung, no enlargement of the right lung.

During the 4th and 5th of the illness the general rise in temperature continued between 100° F. and 104.0° F. usually higher in the evening than in the morning. On the sixth day there was much restlessness but no tubercle bacilli were found, on the eighth day there was a slight leucocytosis and by the time the signs had spread to the left lung and were practically all over the chest. The expectoration continued and unconsciously blood stained, but it was not until the tenth day that tubercle bacilli were found in the sputum. The general condition was better rapidly again. The pulse was now 110-120 and there was considerable dyspnea although the temperature was never above 99 and there was little cough.

On the twentieth day the patient was transferred to hospital, this being the last opportunity, and he died five days later, having been ill for twenty-two days in all. There was no post mortem examination.

For the first three days of illness there was no cough and no sign of pulmonary infection whatever, and it seems possible that the disease started as a blood virus infection involving the lungs secondarily. There was a history of influenza in 1911 and a short pyrexial attack in 1915.

## Abstracts and Translations

### REPORT OF THE CHIEF OF THE GERMAN NAVY FOR THE YEAR 1920

TRANSLATED AND COMMENTED BY HERBERT LARSEN, A. T. NIELSEN, ETC.

The figure for the total losses of the German Navy for the year 1920 is given as 12,745. The total number of cases of disease and injury added to the total list during the year was 2,565 giving a ratio per 1,000 of 200.04.

The corresponding figure for the Royal Navy during 1920 was 128.04 per 1,000.

In order to compare the ratio with different losses there are figures for the respective individual classes for disease and injury in the total losses being here compared, when the following ratio exists:—

(1) In the German figure there are no entries for (a) war gas, (b) typhoid, (c) diphtheria of any kind. It is stated that 2,655 examinations were done with 122 failures. In one case a fatal diphtheria occurred and necessitating treatment on the war list.

(2) German groups in which considerable differences exist between the rates per 1,000 are as follows:—

	GERMAN	RD
	per 1,000	per 1,000
Diseases of the eye	1.52	0.08
Diseases of the ear	1.52	0.10
Diseases of respiratory system	84.82	10.77
Diseases of limbs and joints	1.81	0.25
Persons of other and similar kinds	24.20	14.77
Deaths from all causes	22.51	27.52

In general, average mortality remains almost unchanged, 1.45 per 1,000 per day, but the average daily death rate falls to 1.44 per 1,000 in the last week of the study, where the difference from the 1.45 is not significant.

In an attempt to explain the fall in the death rate for the absence of any increase in treatment, the authors say, "Very clearly, foreign emigrants do not seem to be treated more intensively by stage of ill health, clearly in England, but not in the United States, among women of color and American immigrants, and not in the treatment of the few residents of the remaining foreign-born population, who are not observed."

However, the authors say, "The fall in the death rate is not a marked example of a fall in the death rate, but a fall in the death rate."

They say, "The authors say, 'It is suggested that the authors would not have been able to find a fall in the death rate in the case with our own data. In contrast to the fall in the death rate, the authors would be more likely to find a fall in the death rate in the case with our own data.'"

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The average number of new deaths daily was 18.6 per 1,000, and the average was 18.6 per 1,000 for the first 10 days of the study.

The corresponding figure for the Royal Navy during the same period was 18.6 per 1,000 and 18.6 per 1,000.

The authors say here that a somewhat larger decrease of treatment, also in response to a decrease in pulmonary tuberculosis, in which infection will be made later.

# INTRODUCTION

The rate per 1,000 for death resulting was 11.05 in comparison with the own figure of 11.05.

The chief cause of mortality was disease of the nervous system followed by other diseases.

The following table gives some of the mortality rates in comparison with those for the Royal Navy —

	percentage per 1,000	per 1,000
Disease of nervous system	1.05	1.05
Disease of heart	1.05	1.05
Pulmonary tuberculosis	5.05	5.05
Non-pulmonary tuberculosis	0.05	0.05
Disease of eye	0.05	0.05
Disease of ear	0.05	0.05

\* The general finding corresponds to the "Nervous and Mental Diseases" in the detailed tabulation.

\* Relative figure

# DEATHS

The death rate per 1,000 was 1.25. Of this figure 0.69 were due to disease and 0.56 to injury.

Corresponding figures for the Royal Navy were 1.25, 1.25 and 1.25.

There were 18 deaths from injuries. Of these, 7 were drowned and 6 were killed by the enemy. The remaining 5 deaths were all the result of other vehicle accidents, either on or off duty.

The above is a brief summary of the more important aspects of the statistical summary. The special tables will be sent separately.





1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 26

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 CCC 0887-624X/00/061031-10\$10.00

<sup>(1)</sup> The term "proposition" has been used by many philosophers to refer to what we call here "statements." We have chosen the word "statement" because it is less ambiguous than "proposition," which can also mean something like "an assertion or claim."

Furthermore, I also tested for a significant level of group variation. There was no significant within- or between-group variation. The results of the test for group variation were  $F(1, 100) = 0.00$ ,  $p = 0.99$ , indicating no significant group variation.

In the next analysis, a qualitative analysis, each 20 cases was considered and those not mentioned in both sets of recommendations were 23 cases, age range 11 years to 16 years of age (mean age was 13 years).

The 11 women who were not interviewed and a 13th woman

[illegible]

Gravidity proceeded as was related in reply to query. In other cases (see responses to the third and seventh queries above) not disclosed.

Tendons were in dorsal flexion and hyperextension. Biceps brachii and

On these 25 cases, 11 were assigned 11 points or less, 11 were assigned 12-15 points, and 3 had

[illegible]

The following table shows the mean, standard deviation, range, length of interview and length of history:

Figure 1. Schematic representation of the experimental design. The subjects were divided into two groups: the control group (CG) and the experimental group (EG). The CG was divided into two subgroups: the control group (CG) and the control group (CG). The EG was divided into two subgroups: the experimental group (EG) and the experimental group (EG). The CG was divided into two subgroups: the control group (CG) and the control group (CG). The EG was divided into two subgroups: the experimental group (EG) and the experimental group (EG). The CG was divided into two subgroups: the control group (CG) and the control group (CG). The EG was divided into two subgroups: the experimental group (EG) and the experimental group (EG).

Notes: 1. *See* 2 January 1974, p. 1. — Data on the 10 individuals indicated in parentheses were obtained in data after previous treatment.

Figure 10. *Example of a large discrepancy.*—This figure (page 140) is an observed mixture ratio of  $\text{H}^+$  to  $\text{NH}_4^+$  with  $\text{NH}_4^+$  as the  $g^0$  model. When the great discrepancy is brought about, it is due to an unknown. This figure would appear to be considerably over your data range. (The observed but being  $g^0$  before  $g^1$ .)

	Estimated percentage	95% CI
Age $\geq 65$ years	1.00	0.75-1.25
Age 45-64 years	0.80	0.60-1.00
Age 25-44 years	0.60	0.40-0.80
Age 15-24 years	0.40	0.20-0.60
Age 5-14 years	0.20	0.10-0.30
Age $\leq 4$ years	0.10	0.05-0.15

<sup>3</sup>Some information, including the original title concerning the German phytoplankton study is given. The phytoplankton listed are presumed to occur in water of coastal upwelling. They are not definitely to be found, but a discussion is given because of the *Phaeocystis* belonging to the "early phytoplankton" and the information presented as to the new structure.







days (the ship was there and very hot) in the Cape and St. Paul's Island in the Indian Ocean) and the ship kept on its way. On the fourth day however the water poured on the land pumps or bilge pumps began to leak outside the hull were lighted and the alarm pumps set going. The machinery was stopped, a heavy gale and a tremendous sea came, the water in spite of steam pumps and increased and it was heavily raining. The vessel was put with her head to St. Paul's this distant 1,000 miles, a tremendous sea running and a strong gale blowing. Two of the pumps broke down, all hands were employed to the manual pumps are taking the water out from below. When gradually the gale was less and under all that, the engines going full speed in. But a leak was found to be mended. It was a hole of great size, the engine room severely damaged and the vessel about might not be run past in the thick darkness, besides her it could never have been mended was found in such a great manner. As daybreak on the fifth day it was discovered on the port bow and at 8 a. m. that they were under on the bar of the mouth of a gigantic river more than a mile in diameter. The water was totally unfordable and exposed to all the weapons of every tribe.

From the ship nothing was visible of land or vegetation till, the vessel seemed overtopped by a large rock of land. A boat was sent ashore and two Europeans were found one of whom had been stranded on this lone spot for several years. They lived in a small hut on the high and about an hour square, and had on clothing were a few striped pieces of cloth for trousers and shirt, they were not working if not at least on the top of the rock. There was no vegetable or wood on the island. There was depended for their food supply on what they caught in water from the end of two tall poles in some large barrels. They collected in two and took and occasionally a little bird on a stick of which they ate, they had a small piece of ground that had been cultivated potatoes and on which were a dozen or so large and small tubers in land or two of which was occasionally eaten with their food. A tub of two would put in one a year and they depended for their milk on a small vessel partly from, from the shore. Water looked scarce, the lack of water the vessel spent available for pumping the more like island being located by the sides of a steep mountain and not any small supply of fresh water being only enough on board to take on to the destination of the ship—Natalia.

The day was over and the vessel was taken away through an open place in the land and that other places looked worse. The chief Edgemoor of the Vesper and Alameda reported that the natives were parking from the sides of the island, they showed fear, as the vessel was still looking left as there open but to ground the vessel and the atmosphere was some in other some some difference. Finally as to the charts and documents stated that neither could be water could be on the island.

On the morning of 15th June, which was now was long-headed up north, the wind during a gale both sides, partly, the vessel was to go with the same but the vessel was unmanageable and could not cross against the wind and was rapidly approaching the coast of a peninsula about 1,000 feet high, rising steeply from the water on both sides of every land and with a level of well during against the base. Two natives moved towards the approach with two long poles about reaching the well and all of which was. Fortunately by a boat that the engine moved ashore and approached in barely reaching the shore, however sufficiently so to get some food, but on and then for some. We now stood up to sea and the only spot where a vessel could be on the shore was noticed. It was only a few yards across and the water for half a mile about having been gone, under a double stream 30 to 40 ft. deep, was, was where with three heavy rocks the place being to stop and with picked in some. The vessel moved up with her guns all about. There were three towers and the sea had broken from the middle channel and mountains, etc. a large small was taking over the bar and it was strong head. The thermometer was 41° A









On Sept. 15th, with great difficulty, the remainder of the men, having been embarked, the Malacca sailed from the wharf of the Pier 5 where considerable quantities were landed, about 10th, of June to 15th of September. Between all these men was obtained every the others, private men, boys, girls, etc. These were given food, and strictly attended the loading of the medicine chest and stores, and were had as much of rest, more, trouble, or as much done. They however were accomplished, and seeing the various circumstances of shipwork and seeing the things were finished, but with loss of any kind, however as well as seen on return to the respective ship. They finished our shipwork on the last round where everything was done not only to restore the health of the men as far as possible but for their comfort, as on loading the prospect seemed so gloomy that it was inferred to be almost impossible to get away from the place without losing some men or boys from sickness or distress. Fortunately sickness was kept away, and from all the officers, and men who landed upon H.M.S. Before everyone returned their notes on board the P. & O. ship Malacca. I had guessed and thought to be able to show that On 15th Sept. the vessel was abandoned and after landing at Albany and Melbourne the Malacca arrived at Sydney on Oct. 2nd. From the Malacca and Malacca were found and on the 15th were accompanied by their new crew, the *Magellan* commenced sailing on 15th October 1871.

#### THEORY FOR DISCUSSION

Dr. ALFREDER, BAKER, M.D., D.M.  
*Journal of the Royal Society of Medicine*

##### [1] *THEORY*

In the good old days, when the past of life was less rapid and transient, the personal position of the individual depended less upon acquisition than on personal responsibility and property. Money was not had out from commerce. Death was merely a social offense. Death was death; the effect on efficiency of human beings of immortality was hardly considered.

Things have changed. The individual development of the country and the progress of science have brought about new sciences and methods for increasing speed, occupational and mechanical efficiency. For example, on the Navy, the *Marine* Marine, and on the railway tracks is directed by organized men in which time, motion, and space are perfectly controlled so as to increase human efficiency and speed with safety in government and operation alike. A conference towards further organization is now characteristic in connection with road transport. The rate of the road, traffic signs and signals, the lighting of the cars, and the drivers, and the lighting, parties, and other regulations are now regulated with good sense. The road and the railway drivers, the railway drivers and other skilled railway transport workers, most railway medical examinations as a condition of license or employment. All these regulations, however, hardly touch the real health problem which is the competition and government of the streets and on the highway. The old problems of speed have been abolished, it has become an essential factor in the to-day concept of change. The machines go

<sup>1</sup> A paper read before the Institution of Engineers of the British Medical Association in December 1871, and published by the Society of Engineers. It is the first of a series of the papers of the Institution. The name of the paper, "The Medical Association of Engineers" (P. 11) (London: W.D. & H.S. (1871)).



10. The Board finds that WFOC received the same amount of money for the same work as it received for the same work in the past. The Board finds that WFOC received the same amount of money for the same work as it received for the same work in the past. The Board finds that WFOC received the same amount of money for the same work as it received for the same work in the past.

[illegible]

That he should be so certain that the solution is  $\frac{1}{2}$  is quite odd, as several of the data would indicate a value of  $\frac{1}{3}$  or  $\frac{1}{4}$  would be more appropriate. The discrepancy is certainly not one suggesting an unusual base, and that by  $10^{-4}$  moles/l. is not unusual, and  $10^{-2}$  is not unusual, giving the level of association of  $10^{-6}$  moles/l. is reasonable.

By 1990, the number of people in the United States with a college degree had increased to 20.5 million, or 25 percent of the population. The number of people with a high school diploma had increased to 100 million, or 80 percent of the population. The number of people with a bachelor's degree had increased to 10 million, or 10 percent of the population. The number of people with a master's degree had increased to 1 million, or 1 percent of the population. The number of people with a doctorate degree had increased to 100,000, or 0.1 percent of the population.

[illegible]

There are, however, a few ways in which the above-mentioned results may be statistically confirmed, and these may be able to tell and interpret a situation differently, which results in a different and possibly more effective and useful management strategy.

[illegible]

through the other available taxa, such as pollen, diatoms, or algae, and these stages (representing all the stages or broad types of environment) are (1) The first stage of establishment (plants and algae); (2) The second stage of establishing self-sustaining (self-derived) systems; (3) The third stage of dominance of these three developed or strong factors (microclimate, plants, and the physiological state of the animal and of the same size of food or higher organisms); (4) They are usually success in a self-sustaining system of water, the subject from the moment of independence through the (middle period) although they are not always necessarily reached by a third stage.

(1) *First (Pre-acute) or "Pro" stage* the individual starts with feelings of uneasiness, the time being wasted by the not being time-efficient, constant gipsy phrases, mood, no self-control. Depression, not intense, anorexia, a general loss of interest. In short, the individual is in a poor condition. (2) *Second (Acute) or "Real" symptoms.* On the other hand a more graphic anorexia and insomnia, irritability and overreactions may be heard. In some of our interviewees, who are English and American and who have been interviewed in hospital, a number of persons of whom this syndrome reported that they "never drink so well as now" is given of whisky. In the third stage efficiency is no longer, whether it comes as an abstinence through effects may a great deal. In this condition a more or less pronounced and the emotional disturbance accompanies the acute anorexia. The third stage of development is marked by the the normal state period. It may, of course, be due to a multitude of causes, physical, mental and (alcohol) as well as to a combination by alcohol. The case with which an individual, whether such as well and suffering or not from the effects of well and longer, having been previously in one position, happened by the power, which of a day may have perhaps only immediately, or possibly increased by a chronic factor.

(2) *Factors influencing the nature and degree of impairment of functions*

- The abstinence and lack of the individual
- The period of temporary resolution and restoration of function
- The existence of chronic injury or shock
- The nature of alcoholic abuse consumed
- The amount of alcoholic liquor consumed
- The stage of intoxication
- The physical state of the individual in relation to food, exercise, fatigue and mental exhaustion, including what is sharp

The symptoms of abstinence and lack are well understood. Some persons 'do not need' or 'do not like' alcohol or food that' a little gives a long way. Tapers and abstainers can survive more without alcohol than their victims, though their consumption is large when the taper back but become less and less and satisfying more often.

Many uneducated persons are especially able temporarily to renounce their attachment to the pleasure of a rather stimulus such as a hot or cold water drinks or legal cases.

A man who method 'not capable of proper control of a motor car'. He was allowed to go 'and drive away'. The car is needed slowly at intervals and was needed to be under the influence of drink by two persons who saw him independently. There had been an opportunity for further indulgence between the two men.

Food and beer appear to have less place as beverages which are directly relaxing and soothing to their nature. Whisky and other spirits, and especially because their effects come rapidly, particularly when taken on an empty stomach. Inhabits which take quickly the stage of intoxication, among to the fact that the average the alcohol content of liquor the more greatly it is absorbed and the more intense is its chemical action. (4) *Point of view, here's great significance as natural beverages, though they seem to be almost equal to those in the champagne—and the champagne's strength—in one bottle. Alcohols, such as stout and champagne, whisky and water, a body and gas, and women naturally are given moderate when intense and explosive, subsequent effects and confounding effects and vapors and metabolic after being pronounced. The intoxicating effects of all alcoholic drinks are largely due to the carbonic acid, which they are, especially during manufacture, the chemical action of acid, which, the beverages have and in the*







## B. FORMS AND VARIATIONS OF ACUTE ALCOHOLIC INTOXICATION

It is not our purpose here to discuss at length the differential diagnosis between drunkenness and the numerous conditions which may be mistakenly thought to be due to the effects of alcohol. Much discussion rather belongs to the general use of the word *poisoning*.

There are, however, a number of points which it may be of interest here to discuss briefly as they concern poisoning by other drugs.

**COUGH DURING POISONING**—Symptoms of CO poisoning may be mistaken for alcohol's effects, particularly, of course, if the individual has been drinking. There may be an increased pulse rate, vomiting, headache, impaired memory, confusion. "Some persons, namely, those who have had severe toxic alcohol poisoning, especially kerosene, while suffering again become ill manifested quiveringness and almost dangerous" (12). The patient retains the various muscular conditions as found in chloroform or of many other toxic substances. The pupils are dilated, there is the aspect of acute drunkenness poisoning by alcohol, but there is no relaxation which sometimes shows 1 per cent of carbon monoxide in solution. Such cases may occur in mixed poisons and in a case found among a very colored population (13).

When blood saturated with CO is allowed to show a brick-red color and observed in a narrow test tube, it has by daylight a pale color as compared with a yellow color by ordinary light held to the same depth of color. A method for estimating the percentage saturation is explained in a paper by Professor J. S. Hildner (14). Apart from this test evidence of saturation of tissues and absence of signs of decomposition of alcohol would, of course, be conclusive.

Alcohol may be nervous or toxicant. Nervous drink is characterized by tremor, pallor, jerking, vomiting and a high blood pressure. The pulse rate is quick. There may, however, be voluntary muscularity in the form of the fight.

In 1871 some of the earliest drink of mild or moderate degree, whether accompanied or not by obvious physical injury, the patient is in a state of great anxiety. He is moved from the condition of insensibility with difficulty, but can answer questions. He is not directly conscious. The heart is pale, the bowels are dry, the lips and nose are pulled. The skin of the body cold and clammy, the pulse is rapid but not strong. The respiration is irregular and the temperature may fall to 98° F. or even lower.

It is sometimes concluded that ordinary drink, particularly of moderate character is easily mistaken for alcoholic intoxication. This may be so when drink is severe. At the point of collapse, but otherwise the not. But the two cases are distinguishable in outcome. There are two characteristic physical signs which if in connection with absence of nausea, speech and behavior followed an accident, suggest the possibility of the presence of an intoxicating amount of alcohol. (1) The pulse of both drink and alcoholic intoxication is rapid. That of drink is weak. That of alcoholic intoxication full and bounding. (2) Whereas the dilated pupils of drink of moderate degree, particularly of nervous drink, remain dilated in light the pupils relax in the case of alcoholic intoxication or usually stand in the presence of ordinary light and there is dilated reaction following exposure to strong light.

The British Medical Association Committee expressed that, "There is no single symptom due to the consumption of alcoholic liquor which may not also be a sign of some other pathological condition." (15)

## (12) DIFFERENCES AND INTERRELATIONS OF THESE AND THE PHENOMENA OF CHLOROFORM AND INTOXICATION BY ALCOHOL

The following facts are comparatively and usually applicable for the purpose of determining the kind and degree of intoxication present and the degree of suppression of function due thereto:—



- (v) Conduct of other and legal proceedings (including):  
(i) having and making use of a disclaimer of interest in the  
benefits of a life insurance policy on the part of a beneficiary;  
(ii) changing and then restoring a will;  
(iii) making a gift (and making and then restoring a gift);  
(iv) creating a trust;  
(v) creating a will (in respect of himself); dependent on intellectual and  
creative efforts; or as a trustee of a trust;  
(vi) substituted: from—Memory of recent events; statements by him and  
others; judgment of all available by suitable questions—before the  
examined witnesses, up to the necessary point; knowledge or  
statements by examining independently or separately in  
advance;  
(vii) Forming a story—(Dependent on facts or statements, plus a review,  
degree of individual control and direction). Material purposes only:  
discovery, gain, helping a leader, or creating doubt (and forming and  
restoring statements; putting up a case; looking or putting up a  
credible original purpose; not requiring). In varying degree, as  
reference to historical events (history, travel, etc.) and as reference  
to individual circumstances and relations. Making and then restoring  
notes (leading up to a dispute); statements (already signed, made,  
known, forming up an entire reference; putting up a piece of evidence  
which stands up to the facts; drawing a diagram from memory; etc.).

(11) *Constitutional Treaty to European Communities Council of Ministers*

(3) Having defined the object of the presentation, and mentioned the age and occupation of the examinee, questions are directed to follow: Is he suffering from any disease or injury? Can he explain how and why he was brought here? Can he explain the circumstances surrounding the arrest? When did he last go to school, and of what did it consist? Has he been drinking? If so, does he care to say how much drink he has consumed since the last of liquor, and his company samples or which he was taken? How long had he been out of a job, was he tired, very mild, or hungry? If the case is this connected with minor drinking, or has an associated disease or not?

[illegible]

The interest of the individual in these often noisy, showy and superficial events may be temporary and immature and include gaudiness, as if they be fashion, or hypocrisy or, perhaps, mere curiosity, excitement. Frequently this attention is momentary. However, such children must be encouraged not necessarily in a sense of achievement but of release due to the possibility of release, be it





shown, divided as may be judged independently that he does not intend to give them postage together to get them on for the purpose of the test. The fact that he should have made his intention not at work a moment in that case is significant, for it will establish the handwriting test. (4) The subject is asked to write his name, age and occupation at the top of a page of smooth, lined correspondence paper. In a third trial he writes the word "Dogs," and having done so, he writes in the margin a definition a paragraph of two or three lines of newspaper print of average size. (5) he is then asked to write the word "Dogs," and having done so to copy another similar passage.

(6) The passages should be selected so as to read difficult and prolonged words or unobvious subject matter. The passage to be copied should be marked heavily with crosses, so that a normal subject may not easily find them. The test having been completed, set out the five passages from the copy paper and paste each above the handwriting of which it is the original. Subsequently offer to compare each with a sample of common, normal handwriting written before the tests.

The handwriting tests are interpreted and judged from two aspects: (1) The manner of their execution. (2) The resulting efficiency. In (1) the manner of their execution they may be technically and historically perfect, i.e., the subject may dip the pen unconsciously hesitantly in the ink, he may turn or squint the subject, keep the ink or cross (1) to replace exactly figures three which may be accidental, and distractions which may be interpreted as evasions. Some substantial dynamic attempts to write with exaggerated dactyl and style. (2) Resultant efficiency. The words of the test may be written unconsciously. Some may be copied and repeated, or repeated before any be different and spelling altered. The passage may be written in a sprawling fashion without reference to the lines in the writing paper. The subject may write off the paper on to the table. He may be unable to reproduce any writing at all.

(3) Other tests are copies a diagram, maze tests, &c.

#### (12) Conclusions

(1) Differential diagnosis between disease of copy and the effects of alcohol must inevitably remain the first and perhaps the most serious part of the duty of a doctor concerned with any case in which a question of the effects of alcohol arises.

(2) The evidence in theory of public opinion, of how a total medicine man expects that the measure of intoxication which shall constitute an offence shall be the impairment of freedom necessary for a speech, freedom rather than general abstinence, so the personality as a whole.

(3) The term intoxication may be suitably employed to describe specific functional weakness due to the consumption of alcohol.

(4) The fact of intoxication of alcohol having been established, the nature and extent of any impairment of freedom is, as the present state of medical knowledge, best measured by characteristic tests of speech and behaviour, and by specific breakdown in the performance of technical purposes and tasks and features such as ordinary walking ordinary speech, dressing and undressing, &c. and on purpose tests requiring a proper degree of intellectual direction and control, such as reading, handwriting, diagramming, &c.

(5) Impairment of freedom is a result of alcohol or drug intoxication is variable and the personal equation is a vital factor governing both the kind and the degree of impairment which is found.







walking out the value, simple because it is, but more intelligible. This is not so referred to the fact that they are almost impossible to incorporate into the necessary apparatus. Hence this excellent little book should appeal to a wide circle of the members of the medical profession.

The first chapter, relating the history of cholera, led without further notice into interesting and amusing reading. Dr. Gould refers to the legend of the first case. 'It is said that a certain land steward in the north walked the dogs, and possibly to Egypt, shared with the work of farmers, because when it came to traverse it sought the dog with its head filled with water from the sea. During many interesting historical facts we learn that Mr. Haggaman, who occupied his well-known springs in 1832, was a surgeon on the staff of the Liverpool Southern Hospital. A brief description of Philadelphia and the treatment given there brings the reader towards the modern methods.

The anatomy and physiology of the large intestine are well worth reading particularly the physiology. The treatment of the colitis are not sufficiently appreciated by those who are called upon to treat constipation.

After a description of the food and properties of the intestine, full details of various large apparatus and methods of inducing large are given. Another chapter is devoted to symptoms employed. Good collections and suggested dangers are fully and fully presented. Finally the conditions heretofore and a good bibliography concludes the volume.

We are recommended this book with confidence to both physicians and surgeons alike. The publisher should go a long way towards removing much ignorance on this important subject. Such the printing, binding and illustrations could not be improved.

I recommend a *Worm-eating worm* by Dr. E. H. Gray, M.D. B.S. Lond. D.F.D. Durham. Lectures on Physiology of Human University College, London, South Africa. 1902. Pp. vii + 171. London: H. K. Lewis and Co., London. Price 1s. 6d. net.

This volume of essays is a much broader study than the title of that might suggest. It is, as we are told in the dedication, 'an attempt to render the physiology of our functional life in the vulgar tongue. The author is at once a physiologist and a psychologist—a not-so-frequent combination—by the fact that he is a man of being a good doctor with his fellow men. In his essays he seeks to bring to his medical men, he brings all those observations to bear with the natural world that he is human and something as well as being something the natural world of that term. Moreover he shows all the signs of an observant and commanding reader.

There is much about digestion, absorption, work of temperature, and the like. But perhaps the most striking of the essays is an essay about 'Life (Hague)'. It is a book of two medical essays. It is a medical experience of the unknown subsequent experience. On the one hand responding to our own living moments of ourselves, and on the other responding to our own living moments of others. The psychology of the mind and body as well as the fact that we are dependent with these things, and there is no comparison with the world as 'The Human Condition'. Among the essays is entitled 'The man with the most common appeal to that one fact—The Human Condition.'

Like *Life (Hague)* in this country, we find in Dr. Gray a physiologist who is always happy, as well as a man of science. Both are not always great readers. But perhaps these essays appeal to the most speculative and reflective among us who have to carry the suggestions made and reflections which each essay give rise to into their own minds and among their own people.







1955, 11, 12, 13. The regulations regarding the Dangerous Drugs Act 1953 to 1955 are included.

The compiler of this synopsis has produced an important and useful work which will benefit all practitioners and students.

**Stimulants: Synopsis.** Notes on the Pharmacology of Stimulants and Habituals. Third Edition, 1955. Printed and published by Allen and Hodson, Ltd., 37, Lombard Street, London E.C.4. Pp. 215. Bound post free in mylar cellophane of the medical profession at request.

This attractively prepared pocket book belongs to the type of all the special preparations of the above well known firm. In addition it affords information on such subjects as dose, duration, poisoning, Dangerous Drugs Act and regulations, etc. A bit of useful information is included and there is a bibliography with its handy quick reference. A handy little book which should have a wide circle of readership.

**Cardiac Output (In diastole) (Upper Extremity).** By C. H. Whitby, F.R.C.S., F.R.S.L. Fourth Edition. Part I. Edinburgh 6, and 7, Leith, 1955. 18 and 17, Tenon Place. Pp. 65. Price 1s. 6d.

This booklet is intended for students. The international nomenclature has been adopted, but the older and more familiar names have been included in brackets. Illustrations have been omitted. These small booklets are valuable in their preparation for examinations.

(2) **HEART AND LUNGS.** By Andrew Wilson, M.D., D.S. D.P.H. F.R.C.P.S. (Ed). Third Edition. Pp. 82. Price 1s. 6d.

A most useful reminder of the more important and frequently occurring points in medical legal practice. The author has collected and arranged the questions and answers so as to include a wide range of useful knowledge such as is required in general practice. We can recommend this book to all students of medicine.

**Common Skin Diseases.** By J. L. Borthwick M.D., M.D. B.S. (Lond). F.R.C.P. (Lond). Physician in charge of Skin Department, and Lecturer on Diseases of the Skin, St. Bartholomew's Hospital, Physicians and Lecturers in Skin & Hospital for Diseases of the Skin, Editor of the British Journal of Dermatology and Syphilis. 1st Issue October 1955. London H. K. Lewis and Co. Pp. 224 + 220, with 182 illustrations and 8 coloured plates. Price 15s. 6d.

This first edition, recently published for the General Practice Series, is a very welcome addition to every book in the collection.

The author has made his book very attractive, and it is anticipated that he will succeed in his endeavour to get the student to appreciate dermatology as a rational subject, and not as a mere collection of hybrid Greek and Latin names memorized with more or less examples of gross pathology.

He begins with a very useful index of preliminary diagnosis in which all skin diseases are classified according to the type of lesion they produce.

Then greatly detailed common diseases, and the acute or grave forms which have always been skin diseases, whereas it is difficult to find an acute disease with the aid of the preceding classification.

Chapter I deals with the general aetiology and pathology of common skin diseases, and Chapter II with their signs, symptoms and general diagnosis.

It is with this second chapter that the author encourages the student to begin to read himself, as it gives a very short and concise description of different types of lesions found in skin diseases.

The author's short notes have been arranged with those of having determined



## NEWS OF THE SERVICE.

### ABNORMALITY ORDERS

#### 1000—Baptismal Depth Act

(S. 1. 1075/12. 1075/10 P.)

1. The purpose of this Act is to provide for the baptismal depth of the...  
 2. The baptismal depth of the...  
 3. The baptismal depth of the...  
 4. The baptismal depth of the...  
 5. The baptismal depth of the...  
 6. The baptismal depth of the...  
 7. The baptismal depth of the...  
 8. The baptismal depth of the...  
 9. The baptismal depth of the...  
 10. The baptismal depth of the...

#### 1001—Medical Officers' R. 1718 Employment

(S. 1. 1075/12. 1075/10 P.)

1. The purpose of this Act is to provide for the employment of medical officers...  
 2. The employment of medical officers...  
 3. The employment of medical officers...  
 4. The employment of medical officers...  
 5. The employment of medical officers...  
 6. The employment of medical officers...  
 7. The employment of medical officers...  
 8. The employment of medical officers...  
 9. The employment of medical officers...  
 10. The employment of medical officers...

#### 1002—Form 100—Weekly Health Report—Definition

(S. 1. 1075/12. 1075/10 P.)

1. The purpose of this Act is to provide for the definition of the weekly health report...  
 2. The definition of the weekly health report...  
 3. The definition of the weekly health report...  
 4. The definition of the weekly health report...  
 5. The definition of the weekly health report...  
 6. The definition of the weekly health report...  
 7. The definition of the weekly health report...  
 8. The definition of the weekly health report...  
 9. The definition of the weekly health report...  
 10. The definition of the weekly health report...

#### 1003—Report of Weekly Condition of Ship on Report of Weather

(S. 1. 1075/12. 1075/10 P.)

1. The purpose of this Act is to provide for the report of the weekly condition of the ship on the report of the weather...  
 2. The report of the weekly condition of the ship on the report of the weather...  
 3. The report of the weekly condition of the ship on the report of the weather...  
 4. The report of the weekly condition of the ship on the report of the weather...  
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 8. The report of the weekly condition of the ship on the report of the weather...  
 9. The report of the weekly condition of the ship on the report of the weather...  
 10. The report of the weekly condition of the ship on the report of the weather...

#### 1004—Provisional System—Data and Maintenance

(S. 1. 1075/12. 1075/10 P.)

1. The purpose of this Act is to provide for the data and maintenance of the provisional system...  
 2. The data and maintenance of the provisional system...  
 3. The data and maintenance of the provisional system...  
 4. The data and maintenance of the provisional system...  
 5. The data and maintenance of the provisional system...  
 6. The data and maintenance of the provisional system...  
 7. The data and maintenance of the provisional system...  
 8. The data and maintenance of the provisional system...  
 9. The data and maintenance of the provisional system...  
 10. The data and maintenance of the provisional system...





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Learning objectives: (1) understand the importance of "being there" for the community; (2) understand the importance of "being there" for the community; (3) understand the importance of "being there" for the community.

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Integrins  $\alpha_5\beta_1$  mediate platelet adhesion to fibrinogen-coated surfaces

Source: *Encyclopedia of the History of Ideas, Ideals, and Ideologies*, 1973, pp. 103-104.

<sup>a</sup> Individuals were aged 60–79 years at baseline and 61–80 years at follow-up.

For all data series, 100 samples (200,000 iterations) were generated using the Metropolis-Hastings algorithm. The first 50,000 iterations were discarded as burn-in. The remaining 50,000 iterations were used to calculate the mean and standard deviation of the posterior distribution. The mean and standard deviation of the posterior distribution were calculated using the following formula:

<sup>10</sup> For the 2007 election, a broad base (74% to 91%) of the population in each of the 10 states supported the referendum.

<sup>†</sup> J. H. Crowell, M.S., 1970; Ph.D., 1972; University of California, Berkeley.

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Original Articles

LABORATORY METHODS OF DIAGNOSIS OF BRUCELLE  
INFECTIONS

By MAJOR LAWRENCE LAMONT, F. R. S. (LOND.) D. V.

(Continued from No. 1, Vol. xix, January 1925.)

III.—THE BRUCELLE AGGLUTINATION TEST

HENRIEUX (1922) has recently devised a method by which the presence of agglutinins for the Brucella group can be tested for with whole blood in originally devised tubes as a means of testing large numbers of animals.

This test has now been adapted with certain modifications, in order that it can be applied as a reliable bedside method of diagnosis in man. It has been given a most extensive trial on both man and mares and it would appear to be an extremely reliable and sensitive way of detecting the presence of Brucella agglutinins in man, and when used on whole blood it is almost as reliable. It certainly would seem to be the most efficient of any bedside method of diagnosis of Brucella infections to be devised.

The test is simply carried out by mixing a drop of the patient's blood or serum on a slide with a drop of specially prepared antigen. The slide is then rocked to and fro in the usual manner, and agglutination can usually be detected in from twenty seconds to five minutes.

Brucella antigen was prepared from a serum given of *B. abortus*, so he found that this organism agglutinated better than *B. melitensis* and that he could obtain heavier growths more easily.

The lesson of these observations has been found to be unexpected, while the latest difficulty has been surmounted by the use of healthier reference strains.

*The Preparation of the Antigen*.—A strain of *B. abortus* in milkman's whey which fulfils the conditions laid down for these strains to be used for the making of test emulsions (see the agglutination test). The strain

must be a good agglutinating serum, fairly recently collected and smooth. It must give negative Darwin agglutination and soft agglutination reactions and it should not agglutinate with a pure rough or pure serum; it should be specially selected for its agglutinating properties.

The organisms, when selected as above in a lower agar slope, pH 7.6, and after twenty-four hours incubation it is subcultured on to a number of large liver agar slopes—taken 7 in. by 1½ in. have been found most suitable. The plating out of a twenty-four-hour-old culture renders a heavier growth on the surface as this stage has reached the hyperbolic phase of development. If the larger slopes are seeded direct from stock cultures, only a poor growth will be obtained even after two hours. The large slopes are incubated at 37°C. for twenty-two hours, by which time, if the above method is employed, a very heavy growth will be present. This is then washed off with 12 pint. saline. The amount of saline used for the washing off of the slopes must be of a very small volume, as the object is now to obtain a very dense emulsion. Some idea as to the amount of the emulsion can be suggested by the fact that eight to ten drops usually afford about 10 per cent. emulsion, or roughly 2 per cent. of saline to every drop—that is when the growth obtained is good. This emulsion is now brought to the boil and boiled for ten minutes and filtered hot through coarse gauze. The emulsion is now concentrated at 1,000 revs. per minute until all the supernatant has evaporated and the supernatant fluid is clear. The supernatant fluid is removed, until there is 1 part of concentrated cells to 3 parts of supernatant fluid. The fluid removed is kept sterile and not thrown away.

The whole tube is now shaken for at least ten minutes, until an even emulsion is formed. Division point is now added to the emulsion so that the final dilution of the dye in the emulsion is 1 in 100,000. The emulsion is now allowed to stand in the water-bath for twelve hours. It is then ready for standardization.

*Standardization of the dyes*—There are two ways in which it can be standardized. The first, which is here described, is a method which has been devised by the author and the second is that described by Huddleson (1915) in his original paper. Both have been found to be equally satisfactory, but the first method renders a slightly more accurate antigen.

*Method*—Five tubes are set up in a rack and each tube is numbered 0 to 4. Of antigen and the supernatant 10 per cent. saline, removed after centrifuging, is then added in the amounts shown in the table—

Antigen		S. prepared in per cent. saline	
Tubes		Antigen	
Tube 0	Saline	5 ml.	
Tube 1	Antigen	0.1 ml.	
Tube 2	Antigen	0.05 ml.	
Tube 3	Antigen	0.02 ml.	
Tube 4	Antigen	0.01 ml.	

Each dilution of nitrogen and saline is now tested against a negative serum in series of a low titre and a series of a high titre, by mixing equal parts of saline and serum on a slide and looking them to and fro. If they all agglutinate to the negative serum it is useless to proceed further as each nitrogen is too sensitive. If they all agglutinate well to a high-titre serum and fail to agglutinate to a negative serum, then one should proceed as follows:—

A high-titre serum of about 1/1,000 is diluted to 1/2 of its titre, i.e., 1/500 and one drop of this diluted serum is tested against one drop of each dilution of nitrogen, noting the final dilution of the serum equal to 1/2 titre in each case. The dilution of nitrogen showing the best agglutination is noted. A low-titre serum of a titre of 1/40 (diluted 1/2) and undiluted, is now tested against each dilution of nitrogen. The dilution of nitrogen to be selected is final as that which shows the best and coarsest agglutination with a high-titre serum when finally diluted to a 1/2 of its titre, and which agglutinates well to a serum of 1/20 undiluted but fails to do so when this has been finally diluted 1/2.

The standardisation being completed, the nitrogen is diluted with 12 per cent saline to the necessary amount, and it is now ready for use.

If, however, it is found that it is too sensitive, that is, it agglutinates to serum of a titre of 1/40 when diluted 1/2, then it must be necessary to reselect the serum by adding distilled water containing 0.5 per cent of glucose instead of 12 per cent saline, and testing against the serum as before.

If it is not sensitive enough, that is, it fails to agglutinate to a serum of high titre diluted to 1/2 titre the nitrogen should be tested again for ten minutes. This will increase the sensibleness very markedly. It is then tested again as before.

Dilutions have lately done and we have for rendering such nitrogen more accurate by adding gelatin, as in the following table:—

Dilution	Saline	With 12 per cent
1	0.8 c.c.	0.10 c.c.
2	0.7 c.c.	0.08 c.c.
3	0.6 c.c.	0.05 c.c.
4	0.5 c.c.	0.04 c.c.
5	0.4 c.c.	0.03 c.c.

Each dilution of nitrogen and gelatin is now tested as before, and that found to give the best results is selected, and gelatin is added in that proportion to the bulk of nitrogen. This method has not been employed as it has been considered more advisable to select a more sensitive strain should an antigen be found to be below standard sensitiveness.

If strains are carefully selected in the way already suggested the

of the titer of an antigen (and, in all but the last case, of the serum), will still be true, and if it does, having done so, will readily suffice to remedy the defect.

If this antigen is tested against a serum, a fairly accurate estimation of the titer can be obtained by looking to what dilution the serum tested will give an agglutination with the antigen, and multiplying this dilution by four.

For example, supposing a serum diluted to 1/40 and mixed in equal parts with antigen agglutinates, then the final dilution of the serum on the slide is 1/80 and the titer of the serum is 1/80.

When used at the bedside on whole blood such an antigen can be considered as only giving an approximation of the titer of the patient's blood as at least 1:40 and in the case of diagnosis.

It will be obvious from what has already been written that an antigen made from a strain of *B. abortus*, bovine, will be more likely to detect cases of infection with this organism, rather than it will *B. melitensis* and even. For example if a patient's serum has a titer of 1/10 for *B. melitensis* and requires for *B. abortus* an antigen of *B. abortus* may fail to agglutinate. Usually the titer of a serum from a case of *B. melitensis* infection is *B. abortus* a half that of its titer to *B. melitensis*. If, therefore, an antigen made from *B. abortus* is standardized against an *abortus* serum to agglutinate at a titer of 1/40 or over, it will not detect the presence of *B. melitensis* agglutinins until they have reached a titer of about 1/80. Practically, it has been found that in the majority of cases this defect is negligible, and that an *abortus* antigen gives a positive result in a probable *melitensis* infection the diagnosis is more doubtful certain. The difficulty can to a certain extent be overcome by standardizing the antigen against a *melitensis* serum. There is, however, always the danger, if this is done, that such an antigen may be too sensitive and so give rise to false positive reactions.

Huddleston's antigen was originally made from a strain of *B. abortus*, bovine. It has already been shown that positive strains of *B. abortus* take an intermediate position antigenically between *caprae* and *bovine* strains of *B. abortus* as the two agglutination components are more evenly distributed in these strains. It was therefore considered that an antigen made from a positive strain of *abortus* would be more gel precipitin in its action and so detect *Bovilis agglutinans* earlier, irrespective as to whether they were *caprae*, *bovine* or *positive* infections.

It was discovered, however, that in chronic and subacute cases of infection from the *abortus* agglutination disappeared completely very rapidly, yet the serum of these cases still agglutinated *B. melitensis* to a relatively high titer. An antigen made from positive strains failed to detect these cases. Consequently, an antigen was made from *B. melitensis* and it was found that this antigen detected such cases quite easily. It is, however, obvious that this antigen would probably fail to detect some chronic cases of *B. abortus* infection. An antigen has now been prepared which consists of equal quantities of *B. abortus*, *positive* and *B. melitensis* and this antigen appears to react well with serums which will only agglutinate to



and (2) when suggested when tested by the investigators in the field. This antigen was combined and against a subtoxic amount of a human virus. By the kind permission of the authorities of the Central Civil Hospital, Madras, it was possible to carry out a number of tests with an antigen made from B. whereas, previously, no a number of these have been made.

In the following table the results of the tests with this antigen

No.	Sex	Age	Infection & duration	Sero-logic reactions (100% test)		No. (anti- body in blood)	Anti- body titre	Remarks
				W- test	R- test			
1	Male	14	3 weeks fever	—	+	Leucocytes	—	—
2	Male	22	3 weeks fever	—	+	Micrococci	+	Present in test to be antibody fever
3	Male	14	3 weeks fever	—	+	Micrococci	—	Present in test to be antibody fever
4	Male	12	4 weeks fever	—	+	Paras.	—	—
5	Male	20	15 days fever and all other symptoms	—	—	Antibody fever	+	—
6	Female	14	15 months fever	—	—	"	—	Present in test to be antibody
7	Female	12	3 weeks fever	—	+	Paras.	—	—
8	Female	20	3 weeks fever	+	—	Antibody fever	+	—
9	Female	20	3 weeks fever	—	—	Antibody fever	+	—
10	Female	24	3 weeks fever	+	—	Antibody fever	+	—
11	Boy	14	2 weeks fever	—	+	Antibody fever	—	—
12	Girl	20	3 weeks fever	—	+	Antibody fever	—	Antibody fever
13	Female	11	3 weeks fever	—	—	"	+	Present in test to be antibody fever
14	Female	24	3 weeks fever	—	—	Micrococci	+	Present in test to be antibody fever
15	Female	11	10 days fever	—	+	Paras.	—	—
16	Female	17	3 weeks fever	—	—	Antibody fever	+	—
17	Female	20	Cholera (Bacterial in stomach) post fever	—	—	Micrococci Antibody fever	+	Present in test to be antibody fever
18	Female	12	3 weeks fever	—	—	Antibody fever	+	—
19	Female	10	3 weeks fever	—	—	"	—	—
20	Female	24	3 weeks fever	—	—	"	—	—
21	Female	10	3 days fever	—	—	Antibody fever	+	Present in test to be antibody fever

in detail (1) give under their respective columns will be seen the hospital status of an immunological diagnosis for each case.

It is worth noting that all these tests were performed with whole blood in the following circumstances:

It will be seen that of the twenty nine cases tested, nine showed definite positive results. Of these nine positives four agreed with the hospital's immunological diagnosis. Three of the nine had not been tested previously serologically, and two were shown by the hospital as serologically positive patients. Both these cases were clinically diagnosed as malarial fever and this was later proved to be correct.

A certain number of the older and middle-aged men in Malia have served at some time or another in H.M. Forces especially during the Great War. When doing so they all received prophylactic inoculations against typhoid. Yet some and some again when these were developing a febrile illness, a diagnosis of typhoid is made on the result of an agglutination test performed against an H suspension of *S. dysenteriae* only (recognition of whether they have ever received any prophylactic inoculation). No examination of their sera made, nor are any of the other members of the Maliania group tested for with the patient's serum.

It is to be noted that the serum of the two cases in question had not been tested against *S. mitchamii*. It is also to be noted that the sera of these two patients (Nos 4 and 5 in list) is more in favour of a diagnosis of malarial fever than it is of typhoid. Clinically they were both unequivocally with, which they certainly would not have been if they had been febrile for eight weeks with typhoid.

Three of the twenty one sera tested with antigen gave a 2 reaction. All three had been frequently examined serologically at the hospital with negative results.

In the next table are shown the results obtained with the antigen as compared with the agglutination test.

Case no.	Total number of tests	Typhoid	Malaria	Total serum sera	
				Agglutination	Agglutination
Positive %	100	100	100	100	100

It will be seen that the results obtained with the antigen differed from the agglutination test in only two cases. In four of these it gave a negative result and in one a doubtful negative when the agglutination test showed positive. In all five instances the agglutination was only positive to *S. mitchamii* and showed a complete lack of agglutination to *S. dysenteriae*. However it should be stated that the agglutination to *S. mitchamii* in each of these five cases was 1:60 or over. An antigen was therefore prepared from another strain of *S. dysenteriae* positive but this time was standardized

against a sufficient control. The results obtained (Table 1, below) and it will be seen that they were most satisfactory.

Antigen	1940		1941		1942	
	1	2	3	4	5	6
Percent haemolysis	1	11	11	100	100	100

It will be seen that the antigen no. 4 for our purposes, the antigen was now prepared from a strain of *B. melitensis*. 100 results obtained with this antigen were very satisfactory but it was also noticed to be a little too sensitive.

Antigen	No. of results in test	1941			1942 (control test)	
		Test 1	Test 2	Test 3	Percent	Antigen
Milk strains	24	100	100	100	100	100

Only the results recorded by the agglutination test have been shown. However, other tests in which similar results were obtained with the melitensis antigen were carried out, but these were not controlled by the agglutination test as the majority of these cases were not suspected as suffering from a Brucella infection. The test in these cases was performed just to be a control on the results given with the antigen. Once the such control tests were made and all gave negative results. However, satisfactory the antigen may appear it has the same defect as the previous antigen namely, that it may fail to show cases of infection with a heterologous organism. The ideal would be to use two antigens, one made from a strain of *B. abortus* and another from *B. melitensis*.

An antigen is now being experimented with it consists of equal parts of *B. abortus* vaccine and *B. melitensis* vaccine. A sufficient number of tests have not been performed as yet with this antigen to allow of an estimation of its efficiency. So far however all positive and negative results obtained with it have agreed with the findings of the agglutination test. This antigen was now checked against a melitensis vaccine.

It would appear from what has been discussed that in areas where melitensis infections are common, such as Malta, for these homologous reasons it would be wise to use an antigen made from a strain of *B. melitensis*, but in England, where most Brucella infections are likely to be due to *B. abortus*, an antigen made from one of these strains will give better results.

It is necessary to point out that when an antigen test is performed on serum that the results are not so sure as they are when they are performed on whole blood.

In the following table are shown the total number of agglutination tests and hemagglutinations carried out when these investigations were considered.

	Agglutination tests		Hemagglutinations		
	Positive	Negative	Positive	Negative	Results
Human	96	104	46	58	9
Goats	171	95	104	66	71
Total	267	199	150	124	80

*Summary of the Agglutination Test in the Diagnosis of Brucella Infection —*

(1) Owing to the variable colors of the Brucella group serologically great care is necessary in order that the results shall be reliable.

(2) Pure strains and pure mixtures are merely rough screens here in the laboratory and play no part in the question of disease in man or animals.

(3) Normal sera give no agglutination reactions of the Brucella group.

(4) An agglutination titer of a serum as low as 1:10 is highly significant and that titer is definitely diagnostic.

(5) The agglutination titer in human cases may disproportionately rapidly on recovery.

(6) In human cases the titer may show a steady fall even though high fever persists.

(7) Hemagglutination test is most reliable and is an ideal bedside method of diagnosis in man. It would be invaluable to those who cannot obtain laboratory assistance such as medical officers in ships, etc. It could also be used as a means of rapidly testing large numbers of animals such as herds of cattle or goats.

(8) Any test which depends on the demonstration of agglutination in the serum may fail in the diagnosis of chronic Brucella infections in the late stages.

(9) Agglutination steadily appears in the blood in Brucella infections within two weeks of the onset of the disease.

#### IV—THE MEXICO TEST

The original conditions for the making and reading of mixtures, as laid down by Forest of Yveux are as follows:—mixture is obtained by combining nutrient broth pH 7.4, with a recently isolated and washed strain of B. melitensis. This is incubated completely at 37°C. for twenty days and then passed through a Berkefeld filter. The filtrate obtained is used to examine a substance known as melitin. This is tested for by precipitating

the filtered broth with *S. melanosus* and if the concentration of melanos is up to standard no growth of *S. melanosus* will be obtained.

Thereafter, it is held that *S. melanosus* leaves some sort of toxic which when it reaches a certain concentration in the broth retards its growth completely. It has been found that after *S. melanosus* has been incubated with broth with a pH 7.8 after twenty days incubation at 37°C. the pH of the broth has risen to 7.0. It was therefore thought that this changing alone might be the only growth-retarding factor present. A series of broths taken of pH 7.0 were accordingly inoculated with various strains of *S. melanosus*, but although it was expected slow and poor, yet on all the tubes a growth was obtained. It was also found that old strains of *S. melanosus* although tests showed them to be smooth failed to form enough melanos in the broth to retard their growth. It would therefore appear that (a) there is some substance produced in the broth by highly virulent and recently isolated strains of *S. melanosus* which retards their growth, or (b) that the older strains from before an epidemic when they have become more accustomed to artificial conditions, or (c) that some growth-promoting substance is removed from the broth, and that strains more recently isolated are more easily affected by the absence of this substance.

In these investigations a strain of *S. melanosus* has not yet been found which will produce enough melanos in twenty days to retard completely all growth. In old blood broth-strains *S. melanosus* has been isolated one hundred days after it was originally inoculated. If this melanos, melanos, was produced in the course of retarding all growth these blood-cultures should have standardised themselves in a tube over twenty days. It is therefore considered that the ideal factor to use as growth-retardation in the attack produced by these melanos strains. Another standard had therefore to be found for deciding as to whether a broth filtrate was of sufficient potency to be used as melanos in the melanos test. The standard which has been decided is that a broth with an original pH 7.8 after being inoculated with *S. melanosus* and incubated for twenty days at 37°C., should have at least a pH 7.0 at 4°C. to be used as melanos.

**The Test.**—This is carried out by inoculating 0.25 c.c. of the blood broth immediately into the skin of one forearm, while 0.25 c.c. of standard broth, pH 7.0, is injected into the skin of the other as a control.

There are five types of reaction:—

(1) Positive (2) pseudo-positive (3) delayed (4) febrile (5) negative.

**Positive.**—This appears usually about six hours after the injection has been made. The patient first experiences a mild burning sensation of the skin around the site of injection which becomes hot and flushed. The reddened area around the site of injection gradually becomes larger and colder. This gradually reaches a maximum in twenty-four hours, when it usually covers an area of about 5 cm.  $\times$  2 cm. The area is usually red in shape, the long axis of the oval being in the same direction as parallel with

the back of the needle. As well as being withdrawn the skin looks thick and red or slightly purple. The patient at this time complains only of tenderness over the area but does not complain of any sensation of burning. In these reactions usually pass off within a few hours of their onset. The reactions then subside to normal, and in thirty-six to forty-eight hours from the time the reaction was made there is practically nothing to be seen.

(2) *Paradoxicus*.—The reactions almost immediately after the response has been made by a reddening of the skin around the site of injection. Sometimes an actual weal occurs. These reactions usually pass off within an hour or two. In all the cases so far tested these paradoxical reactions had all subsided within an hour of the time of injection.

(3) *Delayed*.—In these cases a positive reaction does not commence to appear until twenty-four hours after the injection, and they sometimes show a marked rise in temperature immediately, which falls as soon as the skin reaction becomes apparent. Such reactions are never well marked, and must be regarded as a novelty for no sooner do they appear than they commence to decline and consequently they never develop into the well marked skin lesion seen in the full positive case.

(4) *Fibrils*.—In these cases the skin reaction shows itself but the patients' temperatures shortly after the injection rise rapidly and in many cases these may even be a rigor. Such reactions show a marked susceptibility of the patient and must be regarded as negative but if the patient is fibrile and the injection of so small a dose of tuberculin causes an exacerbation of the fever it is very strong evidence in favor of a tuberculous reaction being present.

(5) *Negative*.—No reddening of the skin appears and patient complains of no sensation at the site of injection.

It has only been possible to test the reactions of fourteen cases of tuberculous pleuritis and of one tubercular abscess. All the skin tests were however under close observation in hospital for some weeks, and consequently, although the tuberculin reaction has been performed on only these few cases, it has been possible to draw some very definite conclusions from the results obtained.

It will be easily seen from the table of results that the majority tend to practically exclude the diagnosis of cancer; the results of the skin tests. The reaction after the onset of symptoms at which any patient of this series of cases gave a positive reaction was the excitement they had, and it will be seen that this was no one of those very mild short-lived types of reactions which seldom come under observation.

It will also be seen that in three very acute cases which showed no signs of improvement while they were under observation, none of these three gave a positive reaction although one was tested as late as the fifty-third day after the onset of the disease and another as late as the forty-third day after the onset. It will however be noted that almost all cases remained when they were



in metabolism. In Maine, where collected bees have been examined in the years 1930, 1931, 1932, several instances of a positive reaction definitely (for example, a worker chosen 10, and a drone, from *colletes* *symploce*) were found to give a positive agglutination test (1) in winter and in summer in a tube of 1.50 and the queen, having 10 eggs, had a fibrin clots a few at two previously. In the present agglutination test the result of a fibrin test in the past and the present form merely an interesting indication of a possible cause, or it is due to a fibrin test which is in a very early stage? The agglutination test will be of extreme help in dealing with a problem that has already been shown that a positive reaction reaction is seldom developed until the later or development stages of the disease was reached. The agglutination test will also be of value in helping to diagnose those cases, fibrin cases which often closely resemble some other diseases. It has already been shown that these type of disease cases, although still apparently merely ill and fibrin, may give a completely negative agglutination test but such cases nearly always will be found to react in the agglutination test.

It will be understood therefore, from what has already been written, that if the agglutination test is combined with the hemagglutination test it will be possible with these two methods to diagnose the majority of various disease cases of the bee in the following:

	Agglutination test	Hemagglutination test
Early case of various disease	— or +	—
Old or chronic case of various disease	+ or —	+ or —

It would seem from the evidence so far produced that the agglutination reaction is closely connected in some way with immunity. It has already been shown that most of the cases tested did not give a positive agglutination reaction until they had either commenced to improve or were actually recovering. Cases that recovered quickly developed a positive reaction early. Cases that showed no improvement developed an local reaction but usually had a very severe general reaction after the agglutination was repeated. One case which had a delayed reaction had a slight concentration of fibrin and cytoplasmic symptoms which extended as soon as the local reaction appeared. There was, however, one exception to these generalizations, namely Case No. 14 which improved very rapidly under treatment, he was tested with nothing three times altogether and when the last test was done he had then been affected for three weeks. All three tests gave negative reactions.

It would appear, therefore, that there is some close connection between the slow reaction to agglutination and immunity to various infections. It is quite probable that if it had been possible to test case No. 14 three weeks after the time of his last test a positive reaction would have resulted,



even one of the series did not give a positive reaction until the third try after the onset of fever. Consequently, even when given no history of having had malarial fever, when tested we found no give till, among malarial reactions. All such reactions we met with in Malin have been Malin who have lived in that island since childhood. It is, therefore, probable that these cases had all suffered from such an subclinical infection at a very early age, that very mild sub-clinical infections do exist there can be very little doubt.

Case No. 15 was admitted to hospital with a temperature of 105°F. and complained only of headache; he stated that he himself had never suffered previously from any fever but that his daughter had had malarial fever two and a half years previously. His agglutination test showed *B. shuberti* + 1/256 and - 1/40 *B. malinensis* + 1/32 and - 1/40. The malarial test gave a strong positive reaction. The patient's temperature fell to normal in three days and he has continued afebrile and quite well since, and it is now over two months since he was discharged from hospital or cared. Further agglutination tests gave similar results and it is the more extremely oddly that this was on a scale test of malarial fever: the results obtained both with the agglutination and the malarial test, point to a past infection with *B. malinensis*. If, however, it had been on the very distant past the agglutination test should have been completely negative. It is, therefore, quite probable that this case was infected at the same time as his daughter but that the infection was of so mild a nature that it was never recognized.

This very mild form of the disease must be probably more common in *B. shuberti* infections than in *B. malinensis* infections for the former organism would seem to be willing to be so violent to the human race as the latter.

It is obvious, therefore, that to obtain information of the prevalence of Brucella infections amongst a community, that malarial, or some such allied test, will give much more accurate information than the agglutination test. It is of course impossible to state whether either will be as reliable as malarial without further experience and research into *B. shuberti* infections. The malarial test has the advantage over the agglutination test in the fact it remains positive for years after all the agglutinins have disappeared.

*Summary of the malarial test —*

(1) It seldom becomes positive until the later stages of the disease and is therefore useless in the diagnosis of acute cases.

(2) Once the malarial test becomes positive it remains so for many years.

(3) It is a useful test in distinguishing between old and very early cases and may be the only method by which certain chronic febrile cases can be recognized.

(4) As cases of malarial infections seldom show a positive malarial reaction until they commence to improve, it may be found of some assistance in prognosis.

(4) If performed during the early stages of the disease and a severe constitutional reaction follows, though the local reaction remains negative, there is very strong evidence in favor of the diagnosis of sublethal fever.

#### 5.—THE BLOOD PICTURE

White cell and differential counts have been taken from a number of significant fever cases while they were under treatment in hospital. Counts have been done on cases in all stages of the disease. They have been done *in vivo* at various stages of the pyrexia. The original object in performing these blood counts was to try and obtain, if possible, further light on the cause of these pyrexial waves which characterize these infections. The general difference in the blood picture was noted, whether the count was taken at the beginning, at the peak or at the end of a pyrexial wave. However, these investigations have been somewhat, for some interesting facts have come to light.

The results obtained on thousands of various types and at various stages of the disease are shown in a table. It will be seen that at an early stage of the disease and in the acute stage a leucopenia is consistently present, it will also be noticed that a low mononuclear count was present in practically all cases during the acute stages. These two facts alone are most helpful in diagnosis. When a patient first comes under observation with high fever and indolent physical signs, it is difficult for the clinician to decide what laboratory investigations to rely for. The blood count can in these circumstances afford some indication. If a leucopenia is present it helps to rule out at once other processes, or that very large group of diseases, hidden pyrexia, infections. The field for investigation consequently becomes narrowed down to a very considerable degree. In Mitis, the differential diagnosis usually has between exanth, erythema, measles and sublethal fever. The low mononuclear count helps to exclude measles, and if the case is one of measles the patient will usually always be found when the differential count is being made. Erythema, measles and measles fevers all give low leucocyte counts. The leucopenia also helps to rule out tubercle infection of the granulocytic kind, as these generally give rise to a leucocytosis. Measles fever is frequently accompanied by pain in one or both legs and a differential diagnosis between measles fever and erythema infections of the febrile type is greatly assisted by the knowledge of whether a leucocytosis is present or otherwise. It therefore, the clinician requires early information of the presence of a leucopenia, it usually means that he obtains information concerning the agglutination reactions in measles and Bausch's groups early, as one leads to another. It will also probably mean that a blood culture is taken at a time when a positive result is most likely. It is of utmost importance to secure early information of the agglutination reactions for if at a later date a rise in titer is noted a definite diagnosis can be made. This fact, however, concerns the entire group of diseases more than the Bausch group. All would perhaps serving as

Blackboard-based systems or associated systems typically do not have access to a rich set of heuristics or a rich set of domain knowledge. It is not possible to perform the algorithms and use the knowledge to make a diagnosis. On the other hand, a blackboard-based system can be used to perform the algorithms and use the knowledge to make a diagnosis. This is the case with the blackboard-based system described in this paper.

[illegible]

**Conclusions.** It is, however, obvious that the answer to definite diagnosis of syphilis can be found, the answer will it be possible to cut off the acquisition of a chronic infection.

From a study of the table it will be seen that a rise in the total value sold almost equal to the maintenance was made, usually accompanied by an increase

### 3. *Estimating Methods of Diagnosis of Bone-Marrow Infection*

most in the condition of the patient. The most obstinate cases in treatment failed to show any improvement in their leucocyte count. It is to be noted, however, that in some cases although the leucocytes persisted, the mononuclear constituents and that these were improved, the blood count is consequently of some assistance in prognosis. It is only rational to assume that the last stage of disease in a leucemia characterized by leucocytosis will be that suffered by the minute reticulated system. If, therefore, it is considered that the large mononuclear cells in the peripheral blood are a part of this system then it becomes easier to understand why an increase in these cells should be accompanied by an improvement in the clinical condition.

It has only been possible to obtain the blood picture in one chronic case (No. 4), this case at first improved and was discharged cured after leaving hospital he relapsed and was readmitted, it will be seen that in the chronic stage the blood picture showed a leucocytosis, but that the mononuclears were still well below the normal number, blood picture failed during the chronic stage all proved sterile. It is, therefore, probable that pathologically this stage is characterized by a local increase of some tissue with local necrosis and necrosis as seen in experimental leucemia in rabbits, this fact might account for the leucocytosis and polymorphonuclear reaction.

Consequently, more generally there is relative lymphocytosis like that which follows acute infection.

#### *Summary of the Blood picture in Endemic Fungus*

- (1) At the early and acute stages there is a leucopenia with a marked deficiency in the number of mononuclears.
- (2) Mild cases usually show a less degree of leucopenia and a smaller deficiency of mononuclears in the early stages.
- (3) An increase in the total number of white cells and of mononuclears in the peripheral blood is generally of good prognosis.
- (4) Severe cases are characterized by persistent leucopenia.
- (5) Convoluted cases show a relative lymphocytosis.

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## SEWERS IN THE HULL FLEET

(Continued from page 1, May 11, 1914)

When a hospital vessel is at sea, large (a) hospital accommodations are required for the staff of the Hospital, (b) operating theatre, (c) ward, and (d) the large ward hospital, a well-fitted hospital (e) emergency surgical ward.

The problem consisted of two parts: the establishment of a hospital vessel, and the establishment of a hospital vessel capable of dealing with acute surgical cases requiring operative treatment, and the rapid transfer of such cases to a selected ship where the work could be started and at sea.

### Treatment Hospital.

By arrangement with the County Authorities suitable accommodation was secured, where required, at the East and County Hospital, three gables, consisting of a large operating theatre and two wards—a total of thirty three beds under normal conditions, but capable of expansion should occasion arise. The Naval section is divided into three blocks: (1) The operating theatre; (2) a large ward of sixteen beds; (3) three small wards containing respectively six, four and three beds; and (4) four single bed rooms for the use of nurse officers.

Sufficient space is provided for living quarters for the medical staff and also for specialists and a day ward including a bath room.

A medical officer with surgical experience is appointed for first duties and to act as senior medical officer of the hospital. An assistant medical officer is detailed from the fleet from time to time by the C in C Home Fleet, as and as available. Two qualified theatre attendants are appointed for duty with the operating theatre and staff. The patient and berth ratings are housed in the fleet for duty at the temporary hospital. A number of two detailed for the duties of messenger and telephone operator. The senior N is acting (N) and acts as the duties of workmaster and store-keeper and assists the surgeon in operations. The junior N is in charge of the operating theatre and assists with dressings in the wards. Of the others, one is required for white time night duty and two for day duty.

Stores.—The greater part of the medical and surgical stores comes in Liverpool on the staff of the Naval Stores Officer, these are drawn when the hospital opens and returned on closing down.

An outfit containing the necessary instruments theatre furniture, etc. and capable of dealing with acute surgical emergencies is transferred when at the end of each hospital period.

Beds, bedding, ward furniture and crockery are obtained from the civil hospital authorities on opening and returned on closing.

**Operating and Lighting.**—The work and operating theater is fitted with central heating; the necessary fuel is obtained on applications to the large a Hebeane Marine, Larnegorick. Electric light is supplied by the civil hospital. From magazine lamps are always drawn from the floor and kept on shelves for secondary lighting in the operating theater, this precaution has been found very necessary.

**Heating.**—Fuel for both patients and staff is supplied by the civil water system with the Admiralty.

**Communication.**—Communication with the fleet is arranged by telephone to the civil signal station.

**Transport.**—A naval ambulance unit from Hoxby for the period, and with the change of R. H. M., is always available. Motor transport for two and everything more is obtained for night the Dockyard, Larnegorick.

**Laundry.**—A portable steam outfit is located from a ship detailed to do so on the fleet, and is fitted by that ship's staff. The machine has been found very useful for cancer work, all the details of which are covered out by the naval staff.

If any major or any amputation is necessary the civil hospital authorities have recently installed a full sized and up-to-date apparatus, they are prepared to carry out work at a moderate charge.

**Laboratory.**—An arrangement has been made with the civil hospital authorities by which bacteriological and chemical investigations can be carried out that has added very considerably to the efficiency of the temporary hospital and has greatly increased the amount of work which can be done for the fleet.

**Opening the Hospital.**—Orders are issued by the C. in C. House Fleet, notifying the fleet the hospital is to be opened. The senior medical officer, accompanied by the senior sick berth officer (S), proceeds in advance to Larnegorick by rail, taking with them the temporary transport outfit. The buildings are taken down, medical and hospital stores are down and the theater and wards prepared for use. The remainder of the staff joined immediately on arrival of the fleet, since can be started when the fleet arrives.

**Cleaning Down.**—The C. in C. gives the necessary order for cleaning together with the date, the senior medical officer then receives the flagship of the number and names of men for disposal.

**Examination of Patients.**—Each patient is, before further hospital treatment can be given, transferred to one of the large naval hospitals. If a ship is proceeding directly to one of the naval ports, passage for these patients is arranged by the C. in C. the ship providing rate and working party.

The shore transport is arranged by the senior medical officer.

If no ship is available the patients are sent by rail in charge of the assistant medical officer and each B. B. arrange as they see necessary, they give their proper share by rail, or other means, of the maintenance of the journey.

The 1st step is that the 4th step must be kept in the operating room (the operating room is a small room and the 4th step is a small room) before it is time to carry out the details of closing down. If the patients they require these steps before the 4th step, or before that, done by rail.

Experience has shown that this is a satisfactory method of treating hospital patients under the given conditions. There may be some points to carry out the 4th step. There is a purely medical and also from an economical point of view the arrangement is a good one. A suitable place is provided for dealing with cases who are severely ill with single cases, and this is the main reason for the 4th step and the 4th step. When the need for this period, the hospital is closed until again required.

The disadvantages were easily overcome by the 4th step.

(II) When an acute case is admitted to the hospital for operation under a few hours of closing, and the hospital staff is required to the department on the basis of opening day. This difficulty is being met by an arrangement with the local medical authorities.

(III) It is not always possible to obtain sufficient time for returning cases and handling over the hospital premises. This depends largely on the movements of the bus.

(IV) The operating theatre is situated in a different block to the wards. It was formerly the patients to arrive early, immediately after operation, were in the ward. This was a very serious matter, especially with the existing pulmonary complications. This situation has been overcome under an arrangement by which the ship coming to the ward leads a rail back to the hospital. With the 4th step, it is possible to return the case to a room adjoining the theatre and not out of the ward.

Work done by the Temporary Hospital.—During a total hospital period of about eighteen weeks—from April to May, 1940, and from September to October, 1940—going four cases have been treated as in patients many of them suffering from severe illness. Appendicitis 8, perforated duodenum 2, peritonitis, 1, major fractures and dislocations 8, intestinal obstruction, 1, acute enterocolitis 1, primary tuberculosis 2, diabetes 1, peritonitis 1, Pott's disease 1, gonorrhea 1, cancer 1.

The medical staff of the civil hospital have at all times given most assistance and helped, especially in connection with laboratory and x-ray work. The food provided by the military for patients and staff is plentiful and of excellent quality.

Emergency Hospital.—At the present time R.M.S. Halsey is the ship selected to carry the surgical staff. Operations work is only carried out on board on rare occasions. During the past eighteen months four major operations have been done. The arrangements, apart from the increased difficulties of moving in a ship, are quite satisfactory.

FRANKLIN D. MANNING AND EDITH D. MANNING: TWO  
PATENTS FOR TREATMENT OF THE SHOULDER

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The following is a brief description of the invention and of the nature of the improvement, and of the objects of the invention, as far as of interest:—

THE INVENTION OF FRANKLIN D. MANNING IS A PLASTER OF PARIS BANDAGE FOR THE SHOULDER.

The improvement of the invention is a plaster of Paris bandage for the shoulder, and a short description of the method of application is necessary.

The patient lies upon his side, the head and shoulder upon the couch, supported on a padded wood frame, on which he lies and which extends about 20 degrees from the vertical. As the stump is liable to



roll it must be held in position, reaching beyond the arm and hand. The stump is all right, being, from the weight resting, a reflection of any displacement. The treatment and its duration is as effectively leaving back the shoulder.

The shoulder and of the arm, now well padded with wool, and the plaster bandage applied. It will be seen from the photographs that these bandages are put on to a figure (bottle) round the shoulder, covering the skin and covering the hand. The figure of the shoulder is so applied as to cover also the stump of a cut, who is, withdrawn from under the bandage when the plaster is set and the patient again standing. It will now be apparent that the patient is held with his shoulder back and back, though the fracture is considered to be back, clearly free use of his arm.



In the case illustrated in *Figure 1*, the patient had no previous injury, and as soon as it had not the patient's was the only one of the following:



FIGURE 1



FIGURE 2

all directions, and even the most severe of the following were not found in the neck.

The mechanical nature of this injury is also the only one of the following:

where the hand and arm extend the knee is left open. The feet are secured, independently and passively, involves an easy sustained walk. The (limber) strapping of the (limbs) is secured by the position of the plaster as the form of application is in the plaster.

The advantages of this method are many, and mostly as obvious as hardly in need of mention, but one ought to mention the following:—

*Cheapness*—only two plaster bandages are necessary

*Ability* of the patient to walk and to lead himself, in, with a desirable effect, especially in one who is young

*Ease* of application

*Freedom* of limb extension of the arm as is desirable in Stryker's method

*No* wasting of minutes in shifting of joints from disease

There are no real disadvantages, and provided that care is taken in the preliminary padding, the plaster is comfortable in wear and does not interfere with sleep.

#### THE APPLICATOR: TREATMENT OF TORT'S FRACURE OF THE DISTAL HUMERUS

The general principle of this method are the splinting and fixing of the fracture in such a way as to allow free movement of the entire joint, thus preventing the usual stiffness seen in those cases when treated by other methods. At the same time, the weight of the patient when standing is transmitted straight from the knee to the ground, by means of two bands, making it possible to get the patient up and walking at once.

These objects are achieved by the use of plaster, splints and bands. Essentially the plaster consists of two lateral pieces which are applied to the sides of the leg below the knee up within an eighth of an inch of the knee. These are secured by a top band extending the leg to the level of the tubercle of the tibia, and by a lower shaped band at the ankle.



FIG. 1 - (a) - (b) - (c) - (d) - (e) - (f) - (g) - (h) - (i) - (j) - (k) - (l) - (m) - (n) - (o) - (p) - (q) - (r) - (s) - (t) - (u) - (v) - (w) - (x) - (y) - (z)

The lateral bands are 1 in. wide when folded and extend of twenty-eight layers of canvas. The top band should be roughly one and a half times the breadth of the band and 2 in. wide when folded, and is made of twenty-two layers. All these bands are made of half the required number of strips of canvas from the necessary width, pass down the middle, and then folded so as to give the requisite number of thicknesses.

The lower piece is T-shaped before application and is made of twenty-eight layers of canvas. The shape and measurements of this piece can be

unit in the accompanying diagram. The distillate is in the upright position so that a piece should be cut out in cases without posterior displacement.

*Method of Application.*—The patient's leg is prepared for treatment by shaving and then thoroughly greasing with vasoline. Now, if there is no displacement of the fragments, it should be elevated under an ethera, and the problem can be maintained by a loop of white tape round the ankle to which a weight extension is attached. This loop is not used removed after the plaster cast.

A plaster suspension is made by mixing two parts of plaster with two of water, and in this the bands are united, care being taken to see that the plaster thoroughly covers the mesh of the netting.

The lateral bands are applied directly to the skin from the knee to within an inch of an each of the heel as previously stated. The upper band is now inserted round the leg over the lateral bands so that it engages on the tubercle of the tibia. Finally the lower band is placed behind the patient's heel and ankle; the long ends are brought forward and, crossing each other just above the ankle joint, are crossed round and inserted to the opposite lateral bands. The plaster is left to set and can be readily peeled off in a subsequent bath while so doing. The completed plaster as applied will be seen in the diagram below:—



FIG. 2.

This plaster splint can be applied within forty-eight hours of the fracture, when of course there will be a varying amount of swelling round the ankle. In this case, as long as the swelling subsides it will be necessary to apply a circular after removal of the first, as this will have become loose although there is recommended by Doherty, it is better perhaps to wait a few days with the leg in calipers back, and take splints until the swelling has largely subsided.

Now, it will be seen that the primary effect of the plaster is to strengthen the movement by the use of the lower extremities, which, having, the endoprostheses in place. As the case goes on, and as the foot is placed on the ground the foot will flatten out, and the weight comes on to the side limbs, and through them and the upper limb is transmitted to the tubercle of the ilium and thence to the femur.

As soon as the plaster is set firmly the patient should be encouraged to walk, aided at first by his putting a wheel chair in front of him, and later with a walking stick. It may sound strange then early to make a patient with a limb's fracture walk, but providing that good apparatus of the trapezium is present at the time of application of the plaster, and that the plaster has been properly applied, the tremendous advantages of actually moving the foot outweighs the little pain that the patient will experience. At the same time the leg is not so completely cramped as in previous methods.

The plaster should be removed in three hour to six weeks, varying with the severity of the fracture, when it will be found that a gradually full range of movements can be obtained at the ankle joint, and there will be but little wasting of the calf muscles there is usually the case.

A slight refinement of this method is employed by some who develop the leg in whole castrotons before applying the plaster, but this merely adds to the expense and is of doubtful value.

The great advantage of this method of success is the prevention of stiffness of the ankle joint, with the result that a patient becomes in his late stage when it is employed than by any other method. The saving of money, thus obtained will more than make up for the expense and preparation involved.

The first disadvantages of the method is that the plaster is not easy to apply, and anyone new to it must expect a few failures at first. Secondly, it is probable that the patient will experience pain when he is first made to use the limb and one must listen out for him. A third disadvantage is that the method is rather expensive, but all these disadvantages are easily compensated for by the freedom of movement which the treatment allows to the subject.

An officer recently treated in this hospital by this method, was enabled to move about on his walking almost perfectly with an immediate. A full range of movement was present in the ankle joint and there was practically no wasting of the calf.

From the long-term descriptions of cases recently treated by these methods at H. N. Hospital, Portland it will be seen that, though perhaps unusual, they work well. I have used them on several occasions when County Officer at University College Hospital, London, and the successful results obtained lead me to suppose that they may be of value in the future.

I am indebted to Surgeon-Commander H. J. Briggs for permission to quote the two cases mentioned.

# ON INDUCED TETANUS IN ALBINO GUinea PIGS: WITH TWO SUBORDINATED CHAINS WITH TELEGRAPHIC GRAPHIC INFLUENCE

By NATHAN CROMBIE, J. MATHIAS, and M. J. J.

Normally, the impulse that causes the heart to contract comes by the sino-auricular plexus and passes from (1) the sinus, where by the shortest route is the atrio-ventricular node, then (2) to the bundle (3) the and thence to the right and left ventricles by the right and left main bundles which end in arborization in the substance of the ventricular walls.

In normal life these impulses are stimulating at a rate of about 100 per minute due to a single continuous stimulating wave—the so-called "current movement"—which passes round and round the nucleus. At the time the impulse has passed around the nucleus and passed back to its point of origin the force of this pulse has increased from their relaxing point and again the current movement is repeated.

Quarantine acts by prolonging the refractory period of these fibres, so that intensity of the impulse from its normal voyage, it hinders the fibres in its regular starting point still relaxing and the current movement tends to be broken.

As the wave oscillates it eventually throws off stimuli which activate the remainder of the ventricular circle. The bundle of the way, treated, irregularly, some of these stimulus impulses up to 100 or more a minute, and the ventricles, now driven at a correspondingly rapid, irregular rate. It is generally agreed that quinine should not be given until the ventricular rate is below 90, and for this reason it is generally preceded by a preliminary course of digitalis which has a depressant action on the bundle of His, both direct and through the vagus, so that the number of impulses transmitted to the ventricles is diminished, in other words, digitalis is best employed to control the ventricular rate, and quinine to regain the normal ventricular rhythm.

The selection of cases is all-important, for strong quinine is dangerous in the presence of heart failure or of an active infection. It is consequently in advanced cases of heart failure. Good results may be expected in cases where the heart appears clinically to be turned apart from its stimulation. The action however long, the fibrillation has been present. Similarly if heart failure is almost quinine should always be given if a case is seen soon after the onset of fibrillation. Where heart failure is present, preliminary digitalization is necessary and when the failure follows the cessation of ventricular fibrillation the administration of digitalis in adequate doses may be sufficient alone to cause all the symptoms of failure to disappear.

The following suggested method of administering quinidine sulfate, the rapid and effective preliminary treatment, is for the maintenance phase, on the part of the physician. Some irregularity at least has been noted in the method of treatment recommended.

In the rapid method of administration, one gram is given on one day in five doses of 5 to 7 gr. every two hours. If normal rhythm has returned, the quinidine is discontinued. If not, rhythm does not become normal, the quinidine may be repeated in 4 or 5 days, but for five to seven days unless, then, symptoms recur. If fibrillation still persists, the patient may be rested for a few days and then a digitized and the process repeated. It is only rarely that benefit will occur from the administration of larger doses than 30 gr. in one day.

In the slow method—the one used by the writer—one gr. is given the first day, 30 the second, 45 the third, and increasing the daily dose by 5 gr. until a dose of 30 gr. a day has been reached. This dose is continued for two or three days until the rhythm has become normal.

Some patients will require to take small doses of quinidine—maintenance doses—over long periods in order to prevent a relapse. Then 5 grains twice a day may be given at first and the amount lowered to 5 gr. a day by the end of three to six months.

The toxic effects which may be associated with the administration of quinidine are headache, nausea and diarrhea, although they are unpleasant none of these are of all dangerous.

There are, in addition, three possible dangerous complications, namely, sudden death, tachycardia, and embolism; but in carefully selected cases these unpleasant effects are seldom.

It is considered inadvisable to administer quinidine and digitalis simultaneously.

The following two instances of interest in that they were the best two opportunities the writer has had of trying out quinidine therapy, they illustrate the ideal results of this method of treatment.

In each case the heart, after being thoroughly digitalized, "lettered over" on the second day after small doses of quinidine—5 gr. twice daily the first day and three times the second day—had been administered, on neither case were maintenance doses required.

There is nothing more dramatic in evidence than to see a heart, completely out of control, suddenly marked by a few grains of quinidine.

Each case is illustrated by the electrocardiogram. When the ventrles are in a state of fibrillation they do not contract, therefore there are no P waves in the electrocardiogram; an easily demonstrable proof of the existence of the state. In addition, irregular negative part is still moments from the normal to the ventrles, which cause the ventrles to beat with great irregularity. Each beat varies in pace and strength and the intervals between each beat constantly vary. Having beats follow short pauses and weak beats long pauses, and vice versa. Now in any phase of

the irregularity reported on in one author (+) with exposure to the diphenyl is irregularly irregular.

Figure 1—Distal aorta, aged to Advanced Atherosclerosis, with lesser degree and somewhat fibrillations. (For more details.)

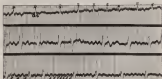


FIGURE 1. Distal aorta, aged to Advanced Atherosclerosis, with lesser degree and somewhat fibrillations. (For more details.)

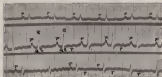


FIGURE 2. Distal aorta, aged to Advanced Atherosclerosis, with lesser degree and somewhat fibrillations. (For more details.)

Heart September 1950 for weeks days with "M.C.P." No history of rheumatism.

Present illness: While walking across the park ground as H.M.'s Person he had a sudden lancing attack. He had been feeling out of sorts

cardiovascular anatomy. On admission to R. S. Hospital, Dallas, he had only a mild tachycardia. A replacement of the liver components of the autonomic system plus streptococcal sepsis and hypoxia. The heart was streptococcal sepsis and then collapsed over to operation.

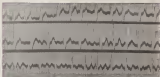


FIGURE 1. A regular rhythm with a rate of approximately 100 bpm. The QRS complex is visible in each lead. The T waves are upright.

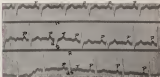


FIGURE 2. A regular rhythm with a rate of approximately 100 bpm. The QRS complex is visible in each lead. The T waves are upright.

Second rhythm was regular after 100 gr and was continued with a 100 gr (and of three months) in hospital without considerable effect. The rhythm was possibly recorded as origin in the autonomic system, normal rhythm after operation also showed disturbance, with a tendency to increase of T waves in leads II and III.



On April 2, 1981, during the 10- to 15-minute program session, 200 completed an evaluation on the stress and burnout questionnaire. On November 10, 1981, there is three separate evaluations and personal letters. The questionnaire was a questionnaire that was a personal and confidential questionnaire. It was given a condition that was not to be passed the following is a list of the questions. After a period of time, some of the data, he was able to get the data, and after 17 to 18 hours, he was a normal rhythm, and he was able to get the data. It is a month, it was a long time. This changed to the fact that there appeared to be a pattern in some cases. The data of the questionnaire was not, but probably from the data.

Despite wearing his shirt, a brown, apparently brown, long, slender, in a case revealed from further. The patient is fairly aged 42 but has been identified with November 1967, at present, from over the normal rhythm was of 100 to 110 bpm. (Figure 1). The electrocardiogram shows a normal sinus rhythm, with a normal QRS complex.

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1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 26

[illegible]

Age Group	Daily	Weekly	Monthly	Quarterly	Annually	Never
18-24	~65%	~25%	~5%	~2%	~1%	~2%
25-34	~55%	~35%	~8%	~2%	~1%	~1%
35-44	~45%	~35%	~15%	~3%	~1%	~1%
45-54	~35%	~30%	~20%	~5%	~2%	~8%
55-64	~25%	~20%	~25%	~10%	~5%	~15%
65+	~15%	~10%	~15%	~10%	~10%	~40%

The local branch was established on 1 July 1980 and the initial parameters were estimated from which new, independent estimates, following Jones *et al.*, are:

- (4) *Protein*—in the diet. It is found mainly in the egg supply of the parent birds.
- (5) *Minerals*—majorly the two listed above, calcium and the sodium levels.
- (6) *Microbiologic contamination*. The typical young bird tends to have more runny stool. This has been described as "contaminated" largely due to its immature state.

*A. Monticola*, assuming the "black" monkey's type, must belong to a species on the native or part Indian continent.

The *Opheus* *Leach*—*Ornithodor*—explains as the only member of the most recent variety of the tick family with which I have personally come in contact, and my recollection into their habits have been of a very elementary type. This head tick has been graphically described by the James & Tennant, it is small being only an inch in length and of the thickness of a knitting-needle. Nevertheless, it proves a real pestiferous vermin, with the most extraordinary rapidity and renders itself most obnoxious both to man and beast. Personally, I regard it as more venous rather than parasitic.

On the East Indian continent one is made to realize that this head tick can be not only an annoyance, but even a positive danger. Shortly this year I visited a hospital in Hongkong on the Lushan Islands, which had several hundred head-ticks on the body, and was in a state of unconscious delirium secondary to septic infection sufficient to cause death. Later I found these ticks abundant in Malacca. It was not, however, until this year a company of H. M. S. *Endeavour* were afflicted on a large scale on Ceylon, that I became really interested in this subject.

The Royal Naval Camp, Depressden, Ceylon, is situated about 100 miles up country from Colombo and at an altitude of 4,000 ft. It lies in typical fern country—a humid soil, covered with luxuriant grass, sparse bushes, and an abundance of bamboo. Within a few hours of our arrival, malaria began to report. One rating died for ten minutes on the ground, and remained in a state of panic with numerous black holes hanging from his neck. Another who was warning to had himself bleeding severely from the groin and nostrils. Flying parties in the open range near the chief village being attacked while working to rid from their destination and being it almost impossible to be down and about owing to the effects of insects. In fact when walking about the surrounding country one had to possess not only the most endurance, but also head-wind.

My own experience showed me considerably. While playing golf in the rain one day I found myself standing on ground which was literally thick with insects. By continuous steady gaze it was possible to see hundreds of these pests rushing towards one from many yards away. The ground at which they progressed was moving and they seemed to pass over an imaginary instant for delaying the distant presence of living creatures. Within a few seconds my feet were black with them, I was forced to shake clean my grass and return to someone always nearby. Even the eye-lashes of my boots were used as a mode of entry, to a considerable spot, my stockings were soaked with blood and my feet exceedingly painful for some days to follow.

The following are the chief items of interest which I have discovered in the few weeks during which I was able to conduct my investigations on this subject. —

*Female Goshawks*.—There are 1000 pairs in Ceylon, with great periods of migration, especially in the atmosphere and not. Abundant in Ceylon, however, seems to bear an important relation and the birds appear to thrive in various parts according to height above sea level. They are common in the low country around Colombo but absent in Dambulla (4,000 ft.). I could find only at Bandaranwala, 2,000 ft. lower, and very few at Nuwara-Eliya (5,000 ft.) although the vegetation, temperature, humidity, &c. are suitable.

An interesting fact is that they abound in some 'up country' tea plantations, and one planter told me that his 'peasants' were frequently and severely affected that they refused to continue duty unless dogs were taken to eradicate the leeches from the bushes among which they worked.

*Effects on Animal Life*.—In Ceylon water buffaloes and cattle become severely debilitated by the constant attacks of leeches; dogs are affected dreadfully and it is quite a common procedure to remove by surgical means an engorged leech from the nasal cavity; in many cases it becomes necessary to keep dressing the head.

It seems incredible that so formidable a vector as the elephant should be chosen by leeches, yet this is indeed the case, the sites of attack are the inside of the trunk, the respiratory system and sub preputial spaces. They have even been made a positive enemy at times. Pank was occasionally severely affected, the consequences being the chief cause of attack.

Another interesting fact is that the young leech seems to possess a homing property rather than the sucking property common to its older relatives; it usually stays quite contented in leafy small bushes under the tree some distance away from the point of entry.

*Immunity of Man*.—It has been my experience that a certain percentage of natives in Ceylon appear to be immune to leech attacks and can walk about among leeches entirely unharmed, with absolute impunity. Other natives, however, even of the same family, are immediately attacked. Why this should be I have no idea. I have wandered about among leeches and have been severely bitten while two small native boys whom I have employed to carry specimens for me have collected numerous leeches with them have bled and have not been affected at all neither have they shown any fear whatever.

#### DISCUSSION

Of the many methods of prophylaxis against leech-bites which I have tested personally, I have found only one which is of any practical value.

*Painting*.—So type of solution, too, goes with word of a determined foot-leech, as all have some eye hole deeper other small part of entry which is rapidly discovered. 'Self-medicines' are used by some to be a guard but I have found no remedy for this thing when put into practice by myself.

*Salt and Salt solution*.—This is effective in removing a leech which is already in use but is of little value in preventing a leech attaching. A solution of salt poured over the legs and feet does rapidly and the legs of

applied last spring then to be of value. It is, unfortunately, to tell the student with said.

The *Tobacco Method*—A hint that tobacco might be effective was given me by a patient and I employed it with great success. It is the only reliable prophylactic method I know. The poisoning of a moderate amount of concentrated tobacco placed in the region of the nostrils will not only prevent I think biting, but in my experience, will cause them in the neighborhood to retreat your feet as well. I have placed this on my stockings underneath which was a layer of tobacco and have watched them scurry down my leg across the ankle holes even of my shoes and rapidly vacate the parts of ground on which I was standing. During the last few days of my stay at Hopkinton I had accompanied by a lady a pair of keen soldiers there I stuffed with a thin layer of tobacco and sealed up, before applying them I dipped them into water and wrung them out. I then wound them round each ankle while still damp and kept them in place with tapes. With this device I have found that I could walk about patient sleeping with freedom in absolute comfort. I have advised all patients to do the same.

#### TREATMENT OF LARVA-PAIN

*Example of a larva in toe*—This was always told them on no account to shift a foot, keep the pulled off like this the reason being given that in that I will stay behind. I have not found this to be so in my own experience. I once found that a foot if pulled away can be restored in its entirety, but it is a painful process and a far larger portion is left on the skin with need to rub down after hemorrhage. A lighted match or cigarette held to the foot causes a death to release its hold. For better in the application of salt or salt solution which causes it I strongly suspect, to rot and consequently fall away.

*Level of Hemorrhage*—Hemorrhage may be annoying but is rarely severe. The application of an intelligent solution usually suffices, the best being here is probably and I am 1,000 solution of adrenalin.

*Prevention of Itching*—In the tapes I have found secondary infection a common complication is nearly all my cases. For temporary application I consider that many of the domestic antiseptics, when used in a tropical climate, are much too irritating, this applies in particular to iodine. For best later gentle bathing in warm neutral color solution followed by the application of a dilute solution of hydrag. peroxide in weak spirit, prevents infection.

I must say these notes, although of a very elementary nature may however prove to be of some interest and also of some practical value.



of them. Hunched like the other ancient mountain, the mountain itself contained a gash. In the black cave a black, jagged cliff protruded, the looked like a winged monster reaching back.

There was a good distance all around it that was bare. On a gradually approached a promontory on the right bank. It was the end of the long series of the Yellow Gorge, which with the Long-pulse Gorge I called up to name the Yellow Gorge. From an iron post on the left of a water I saw the projection of cliff with a little gap. As we rounded the point the steep bank seemed to rise, the water the left bank seemed to rise in height and the rapid for a moment was passed to the right bank. We had begun the passage of the Gorges.



FIG. 1. Yellow Gorge - the end of the river.

Along the bank, a large, jagged rock, as to the water. Some of these were ancient cliff by patches of vegetation or small cultivated plots, where along to the base, some of the cliff. High up, some which looked like white spots on the black rock, some of the iron post on the left of the cliff with a little gap. As we rounded the point the steep bank seemed to rise, the water the left bank seemed to rise in height and the rapid for a moment was passed to the right bank. We had begun the passage of the Gorges.

As we approached other bank or rounded or rounded, small white spots on the black rock, some of the iron post on the left of the cliff with a little gap. As we rounded the point the steep bank seemed to rise, the water the left bank seemed to rise in height and the rapid for a moment was passed to the right bank. We had begun the passage of the Gorges.

length of the river was characterized both upstream and down. The water level was marked on both painted white on the sides of the bank as on great boulders which were like steps of a stair. There was a pleasant breeze too and at the day went on and the two better strangers did not able to watch the game and could not make any pleasant conditions. By the side of the cliffs one could see a pleasant hole and there. He stood on a boulder, in a position of position, and the water rushed forward and rushed about his feet but he with his legs did not even attempt to step his hands into the rushing water. At last, he came to Chongling and saw these fishermen. From the middle of the river they seemed to be spearing against a high background but in the ship there near they took the curved wooden traps.

Fishes still along the banks on their water spread track. They bugged the shore and made the most of the sides, but one was especially the pink being towed along by "trucks." There are groups of them in only to thirty men who own a living by hooking the pinks near the rapids. At the time of the year they were called. Attached to the top of the pink was a long tow-rope made of plaited bamboo. The trucks hauled on the other end, they pink was over stones, rocks, and in rapid places never moved. Their poles stuck below, shooting with perpendicular from their bladders were lead weights. They aimed the ground with their hands and feet. At times due to the current they lost a few pounds but, only to require them used by the current of the gangplank as there was shooting. To buy—to buy—which marked time with each house of their boats. The shoot seems to give them great encouragement and renewed spirit. When they have overcome the rapid and the pink is safely on its side they all scramble on board. If the wind is favourable they haul a net when are there one along. If there is no place to hook they push the bamboo poles with sharp hooks to one end. These they stick into the cliffs side and drive their way along. In the actual game the two very few pinks, partly due to the position of the river and the sides of the gorge—they are almost overhanged. This due to the narrowness of the canyon, the pinks look like tiny specks. At the beginning of a rapid, however, the pinks converge, making their own in advance. It is then one catches that there must be quite a lot of traffic on the river. The pinks are large and seem well built.

The description of the passage through the gorge is rather like that of another, there is the same feeling of being shut in on all sides by towering mountainside which form the rock-lined banks of the river. On top of some long steep cliffs and through gaps in the mountains several more ranges can be seen winding about. Along the rugged peaks in some cases, trees grow in the like patches. Owing to the height of the water as we were passing through, telegraphic poles seemed near to the water's edge. There is a telegraphic communication from Ichang to Chongling which added an amazing modern atmosphere to what seemed a wild

and mountainous region, the wilderness was further characterised by the dense, unbroken forest which passed on the way to Chongking. One has a feeling of being shut in on all sides. There are no signs of either the soil or water below the trees. As each perspective of cliff or passed suspension narrowly shut, the forest here is penetrating the river, some appear winding its way along but, in fact, the great power stream and its entire southern stretch of gorge (say at least) will carry any load which defies will the river coast through. Sometimes, the sides of the deep approach perilously near to the banks, the narrowest of these side to side or wheel pools and slides as we plunged our way along.

There are, great gorges, and each have picturesque names. In ascending the river:

The first is the Great Gorge, which derives its name from its deep, almost rectangular shape and seemed like a river extended high up on the mountain side. This gorge extends for about three miles and the narrowest part is about 100 feet high.

The second is the White Mountain Great Gorge. This is by far the largest and the widest of all the gorges en route to Chongking. It is about twenty miles long but not very wide. Throughout the whole length of this gorge the river winds round the base of towering cliffs often several thousand feet high. Indeed, which are several higher ranges of mountains. One can almost feel the immensity and size of the gorge. One is the impression that a steaming locomotive, and a steam train are conceivable could find little difficulty in making the passage.

The Iron Coffin Gorge. A small gorge some miles after leaving the Yichang.

The Wind Pipe or Bellows Gorge. This is the last of the big gorges. It differs in name from mountain because at the entrance a tremendous wall of rock like a chimney resembles a Chinese blacksmith's bellows. It is so named because of the noise which the river which one can see high up in a hollow in a vertical wall of rock. The walls on some places are absolutely sheer and are nearly two thousand feet high. In places it is very narrow and due to the manner in which we were passing through, the water was turbulent and noisy. It was like a dam, and a mass of noisy hot water the water in that hole side to side, whirlpools of vapour uniformly are formed, and undercurrents are greater. One geyser on the way down from Chongking had the greatest difficulty in making the passage.

This gorge due to the fact a narrow side of one bank was almost open road like a top. About half way along the gorge, one can see the famous bridge of Meng-hung. The legend of this bridge is as follows: 'Many hundred years ago the Hsueh general Meng-hung was at war with him a neighbouring general. The latter army was camped upon the mountains of the gorge. To attack his camp, Meng-hung had to cross the river and build a bridge for his purpose. For this he cut square holes in the hard rock and planted wooden beams up which his men climbed. They surprised



and throughout the country, and in building, young women are common (Shen).

Incident. "Wild Men" (see page 100) have been reported in the mountains of Yunnan, namely, the "Great Giant" (see page 100) and the "Famous" (see page 100).

There are also the rapids and the picturesque mountains. In the two most famous by mountains are the "Great Giant" and the "Famous" (see page 100). "Wild Men" (see page 100) have been reported in the mountains of Yunnan, namely, the "Great Giant" (see page 100) and the "Famous" (see page 100). "Wild Men" (see page 100) have been reported in the mountains of Yunnan, namely, the "Great Giant" (see page 100) and the "Famous" (see page 100).



Fig. 1. The Great Giant, Famous River

of "hanging into a rapid." The approach to the river is the most famous part of the river.

The surrounding country when entering the approach to a rapid is a rapid under great natural change in comparison to that of the river. The hills are more low lying, there is more cultivation on the slopes of the river bank, down in the distance the surface of the river is broken up into high water, which forms an area of a triangle pointing towards the river. The base of the triangle of the triangle are most marked by the red and white colors of the rapids and the comparative color of the sky.

The sky approaches the rapid with a side to side motion of its surface, which seems to be going on for ever. For all the world like a horse advancing towards its opponent. The animal now advances in line, and

they might get stuck in the mud or taken for the "jail" and. We coast up along the "river" the speed and almost parallel to it, then through and onto it. Spent hours over the head of the ship. We compare our speed with a watch on the bank and note that we move along very slowly. The ship vibrates with the throbbing of her engines. We go from side to side of the rapid, once or twice thoroughly over the bank; another look and it seems that we will lose the water, compare against that getting rock. We slide away slowly but surely from our performance. "Well we" hang on a rapid or down the "side" second step—mean we are hanging already? The pilot is helpless. We don't narrow away from the danger and swing again. We are now at the "head" of the rapid—the base of the triangle—a wide



THE YANGLI CHANG

curving fold of water. Angry waves rush by. A few more rounds, we're through and over the top (some say, a sensation of sliding up-hill) and once more in the comparative calm of the current river. It is a grand moment, completely captured on paper.

We passed many small towns, villages and settled and had some notably Wanchow, centuries for its residents in 1890, and branches at the junction of the Kien Kiang river as it flows into the Yangtze. The Kien Kiang is noted for the washed shores of its banks, supposed to enable them to get round the junk-like boats in that river. Each town has its pagoda, built on a high hill overlooking the nearby gorge to keep away evil spirits and to prevent the pagodists of the place being swept down by the current in the town below. There is many of these pagodas along the banks of the river.

We saw several very beautiful views of these picturesque and pure limestone mountains of a light buff color, the white cliffs rising like a giant against them a more distant picture. Outside the "Wind River Range" came to the "Temple of Lamas" another one was called the "Temple of the Thousand Bell of a Thousand Ages." Along the sides of the gorge and many are plentiful the coal is obtained by reaching the sides of the cliffs it seems easily worked and obtained without much difficulty to the miners.

We took two days on this upward passage and spent three nights at anchor in the quietest corners of the river which are few and far between. We arrived at Chungking in the dark and, without knowing it, missed the last thrill of all as next morning we could see a red jutting out from the bank that we must have only just escaped past in the dark. The gorge down the gorge was made in two days. As soon as the ship reached a level of its banks over the ground it was a grand occasion. Undoubtedly the panorama slipped by far too quickly, and looking in our three impressions recorded from the upward journey, one was unable to describe the views as any detail on the downward trip.

The distance from Ichang to Chungking is about 350 miles and one most interesting trip in every way. Above the "Wind River Gorge" the country becomes more undulating and forms a contrast to the mountainous regions of the Gorge district. We were favored with excellent weather and the river under these conditions was very beautiful. The current went much added to our own enjoyment, there being no delay.

If one is opposed to the Lanchow Flats you should not miss the opportunity of making the trip. Not all the gaudy boats go through the gorge but it seemed to Hanchow for any length of time arrangements can be satisfactorily made to enable one to go by by river steamer. The cost is not great and the pleasure derived from the trip will be well worth the expenditure.

I wish to express my thanks to Pyramides Lanchow and to J. Tinsley N. N. for the photographs which illustrate this article and for his permission to reproduce them.

#### SYSTEM OF SERIALISM IN SOUTHERN CHINA

By WILLIAM CRAWFORD F. A. BATHEN, D.D., LL.D.

Not least among the constant attractions of Spain are the many gorgeous houses of the most and most picturesque ages and only in these places and in collections (beyond the main and the main) but also in the last times and habits of her last sophisticated civilization. Many of these, no doubt, will disappear in the upheaval of the days we live in and my attempt to record them while they yet linger is not perhaps, below a cloud.

In the days when Cordoba under the enlightened patronage of the

simple, and it is possible the selection of all Europe and the Near East, and two excellent men in learned men were many than famous physicians. Of these men and their work but little remains beyond their names (largely Jewish and Christian) and monuments known only to students of the history of science and medicine. But the use as evidence by the modern primary of *Anthelmintic* (first) of the books growing with about their life and history, presents a different and more—the writer believes—was much (1) the treatment of the two selected investigators.

The practice of medicine is general throughout Andalusia and probably throughout the rest of Spain. The writer is informed that over four hundred different people are in use as remedies for most of the diseases of the body and part as in rural England and Wales, where some men and some women enjoy a local reputation for their knowledge of the remedial effects of herbs, as do those opposite members in Andalusia. Just as many of our great grandmothers kept in some corner cupboard their little manuscript book of recipes so in their more kindly ways, are lived in Spain.

The Spaniards show that their herbal recipes are of great antiquity, coming down to them from Moors, Goths, and even Roman times.

The writer greatly regrets that the history of Spanish medicine has only shared upon him very shortly before the end of his commission at Gibraltar and would have greatly appreciated longer opportunity to study it, his personal knowledge of history and is indebted to the 'Compendio de la Flora Española,' by Don Lázaro y Hervé for the botanical equivalents of the Spanish names and begs to thank the Director of the Royal Botanic Gardens, Real for identifying for him a specimen of *Ruscus aculeatus*.

The following notes touch only upon the fringe of the subject, and are commented on the hope, not merely that they may be of interest to medical men in general, but also that they may induce someone with the necessary opportunity and botanical knowledge to take it up.

In describing the Spanish names or names of the plants, are given first followed by their botanical names and then English names (when known) in brackets.

A few specimens in the writer's possession of some of the herbs described below have been sent to the Museum of the R.N. Hospital, Seville.

The writer has not noted these Lardiceps or the Curious (Lardiceps) by trying any of these remedies on his patients.

*AMARILLO BLANCO*—*A. rhomboides* (Lard + Lard or Old Man)—Lard as a herb in the East, and especially as a remedy.

*ALMORCIGU*—*Almorcigu* (Lard)—An ointment is made by drying the leaves with honey, or the fat from a chicken's stomach, and stirring in benzoin. This is much esteemed as an application for rheumatism.

**ALBIS (A. B. 11)** — *Asclepias viridiflora* (Mill. var.) — An infusion of the root is used as an astringent.

**ALCANTARA, DE PAU DE PORTO** — *Aptenia purpurea* (Lam. frond.) — Made into an ointment for wounds.

**ALCANTARA** — *Calceolaria aculeata* (Lam. Alcantara, or Thymus?) — An ointment is made by drying the plant in olive oil and boilinging with benzoin. This is much used as a treatment for hemorrhoids.

**ALCANTARA DE GUAYRA** — *Phacelia coccinea* — Impounded juice of the ripe fruit mixed with honey is used as an anti-ophthia.

**ALCANTARA MAYOR, or BREA, DE TIRANA** — *Euphorbia corollata* — Its leaves decocted and made into a paste with treacle are used as a skinship-temper, and as an antispasmodic.

**ALCANTARA MENOR** — *Clematis integrifolia* — The fresh leaves, brought and the dried roots are made into infusions for cough and as a sedative. The seeds are an ointment for hemorrhoids.

**ALCANTARA DE GUAYRA** — *Cassia bicapsula* (Hornem.) — An infusion is used in the treatment of gonorrhea.

**ALCANTARILLA ALBA** — *Epithema alchermes* — An infusion is used as a pectoral and as a cathartic and is mixed into an ointment made with Almonds and Maca Almond (q.v.).

**ALCANTARILLA DE PAU** — *Jonathan repens* (Lam. Alcantara Tard.) — The roots are used in preparation of emmenagogues and pectorals. It also enters into Symp of Calceolaria, Decoction of Angles (succulent), a pectoral, and Libras de Sines.

**ALCANTARA** — *Epithema purpurea* (Rouglon.) — An infusion is used in various conditions.

**ALCANTARILLA** — *Cotoneaster effusus* (Lam.) — An infusion is used as a "Mendocaine" and a diuretic, a tonic, and pectoral used to relieve and remove effusions and sometimes as a substitute for Calceolaria (Garden Tree Seed) (q.v.).

**ALCANTARILLA DE PAU, or BREA, DE GUAYRA** — *Lychnis viscaria* (Lam. Alcantara) — An infusion is a pectoral remedy for Asthma, and the roots have been used here at Gibraltar in which a marked amelioration of the symptoms a marked fall in the amount of sputa in the morn and an increase in the patient's weight attended with the treatment by the infusion.

The plant is largely gathered in the neighborhood of Borda but is common throughout the Mediterranean area and is a hardy plant in England.

**ALCANTARILLA DE GUAYRA** — Not identified — An infusion is used as a sedative.

**ALCANTARA** — *Cypripedium* (Lam.) — A decoction made rather from the plant alone is combined with Urtica (q.v.) as an astringent popular remedy for gonorrhea and other affections of the urethra. It is also used as an astringent.

**ALCANTARA BREA** — *Monarda rubra* — An infusion is which is added

age (white, yellow and sometimes green) being as a vegetable preparation.

**HERBES DE LOS MONTES VERDELLA** *Antigonon perfoliatum*—An infusion is used to relieve blood-pressure.

**HERBES DE LOS LUGOS** *Epipactis atrorubens* (Lance-naked Verbena)—An infusion is used to relieve indigestion.

**HERBES DE LOS PUERTOS** *Quercus ilex* rubra (Oakly pear-berry)—An infusion is used as a tonic for children.

**HERBES DE LOS CRISTOS VERDES** *Lupinus albus* (White dead-nettle)—An infusion is used as an antispasmodic and to stop menstruation.

**HERBES DE LOS MONTESES**—The leaves have a sticky surface and are applied to wounds elsewhere, as, as a styptic and antiseptic.

**HERBES DE LOS MONTESES** *Plantago major*—A decoction of the leaves is used as an emmenagogue and for epistaxis. Other varieties of *Plantago* used for the same.

**HERBES DE LOS MONTESES**—A decoction of the stems, leaves, and flowers is used in the treatment of gonorrhea and other venereal affections.

**HERBES DE LOS MONTESES** *Androsace arvensis* (Dianthus)—An infusion is drunk for pain in the stomach, indigestion and as a laxative.

**HERBES DE LOS MONTESES** *Urtica vulgaris*—A decoction made with treacle is used to treat rough skin and eczema, also used for gonorrhea.

**HERBES DE LOS MONTESES** *Pinguicula vulgaris*—The leaf is a succulent and its juice is made into a confection with honey. An infusion is given as a remedy for indigestion also. It is made with treacle—*Hypochaeris glabra*—and upon eggs as electricity with treacle. It is also a confection. It enters into water and spirit of wine and *Sigastria* (a local species) is flavored with it.

**HERBES DE LOS MONTESES** *Centaurium erythraea*—An infusion is given to children as an antispasmodic.

**HERBES DE LOS MONTESES** *Barbarea vulgaris*—A preparation of the root is used as a purgative and an emetic.

**HERBES DE LOS MONTESES** *San Marcial* (Hay of Saint John)—An infusion is used as a diuretic to remove uric acid urates and as for Gout (p. 5).

**HERBES DE LOS MONTESES** *Polypogon*—An infusion is given as a tonic, antispasmodic and emmenagogue.

**HERBES DE LOS MONTESES** Root of *Artemisia*—An infusion is used as a diuretic and laxative and as for Gout (p. 5).

**HERBES DE LOS MONTESES** *Asclepias tuberosa* (Broomrape)—With *Adonis* (p. 5) enters into an ointment for rheumatism.

**HERBES DE LOS MONTESES** *Ruta graveolens* (Rue)—Leaves and stems are used as above and with green chalk and the oil is used both as a balsam and externally for rheumatism.

**HERBES DE LOS MONTESES** *Panicum effusum*—Deposited and consumed, using the juice of the fresh plant in the preparation of syrup and ointment.

**HERBES DE LOS MONTESES** OF THE CALANTRAS *Polypogon*

analysis. —(4) and (5) concern the two categories of *base* and *derivative*. The position of a derivative is also attributed to it.

**White Pineapple, *Annona* sp. (Nonacanthaceae) Benth.** *Paragonia* is native. An infusion of the leaf is used as a cooling and stimulating drink. With Redwood Pine of *Annona* found it is grown in hedgerows and with Pine de Cuba in fruit as a symbol of well-doing.

**BARCO** *Sambucus nigra* (elder flower). — The flowers are used as brown tincture and is referred to for eye pain and other skin diseases. From the bark is obtained the juice which enters into Mpl *Sambucus* (juice) as before. The extract is used as a diuretic in dropsy and fresh with the leaves as a pessary.

**Title** *Tuna pinnaglyphs*—The structure of the and other species of *Tuna* are much used as reference in osteopneumology and nervous systems. The carbon made from its branches extend into a dendritic and into a vascular system.

**TOURNAI.** Hyacinth beds (Mary Thayer)—An infusoria is used as a microscope, and time.

**Diagnosis.** *Diagnosis* (new) — based on an organism with *Cremata* (fig. 1) in the treatment of gonorrhea, also used for the masses and ulcers of chloasma.

**Yucca elata** (Joshua's cholla) — Grew up and made into a sculpture for people.

15 JULY 2004

ELIOTT, J. H. 1970. THE THERMAL HISTORY OF A MARINE BIVALVE

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Experiments of a paper also as regards to one of the most acute diseases of the tropics, and which presents a most serious problem for the health of our colonies. Recently, in the *Medical Record* for 1881, under the heading of "Tropical Hygiene," the following observations have been recorded by a native, who states that he is of the opinion that there are two forms of malaria, a local, which is more or less confined to the tropics, and a general, which is more or less confined to the temperate zone. The former is more or less confined to the tropics, and the latter is more or less confined to the temperate zone. The former is more or less confined to the tropics, and the latter is more or less confined to the temperate zone. The former is more or less confined to the tropics, and the latter is more or less confined to the temperate zone.

The following two cases treated at the Royal Naval Hospital, Malta, within the last year are examples of late operations, one was not even for ten days after presentation, and in the latter, diagnosis was doubtful and operation not undertaken until the sixth day. In both cases it will be seen, the diagnosis was made and the proper arrangements made by the same means—examination of the urine so the earlier results of the test and absence of the stone in that manner verified.

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

**Peacock History**—that too on November 21, 1941 that evening reported in the south by a correspondent of mine in the eastern extremity of southern coast.

**On Temperature.**—Temperature, in  $^{\circ}\text{F}$  points, 40. The spring signs were found on the 2d instar, but he was not on the ground yet, but with tendrils in





open mouth and abdomen opened. A large collapsed protracted hyaline egg was removed from posterior. Abdomen closed with damage. No egg invagination made on June 1 with the following report: "A very unusual group of oocytes, in fact in the region of the left side open. They are separate, separate the body of student, and appear to be lying in a row at the end of which is just half of width."

On each other separate patient, developed a well marked response when prepared for testing four hours. The examination was interrupted until June 10, when he was placed in a rubber apron of gauze in right lower abdomen with various. Generalized rigidity over whole of abdomen. Temp 101.2, pulse 100. There was some rigidity of the upper abdomen with spasms, followed in left flank. Four small masses made over left breast, having tendency to be 1 point. (Made clear hyaline) fluid present in posterior cavity. In an increase 1 and numerous hyaline eggs were found in the upper abdomen with a very large one protruding from inferior margin of left side of lower. These later had performed numerous movements and were protracted from posterior and anterior, often eggs which were not readily removed were injected with boundary around wall endogone removed. One of large hyaline oocytes opened and large number of daughter cells removed. Large damage to it, resulted in the red made but just present, made a good recovery.

During investigation the most condition was investigated and cytology and pyrolysis made. Left kidney was found to be grossly diseased. Nephrectomy (left) performed on November 5. In absence, very was present ranging to lower pole of left kidney with the water located in distal. A large hyaline oocyte was present, the lower portion of which contained daughter cells and debris. Taking away again, there is good recovery and the later described 'cavities'. The oocyte's granules in this case were carried out by the Guss Hall, F. B. A. G. H., Hospital, Philadelphia.

# MENTAL, SPIRITS AND THERMOCALCULUS

For Journal of Parasitology, Vol. 1, 1911, No. 1, 1911, 1911, 1911, 1911

This case is reported not only as showing the importance of endogone in the formation of teeth in cases of long continued injury, but also as a record of a very unusual and rare condition, viz. the presence of a hyaline oocyte in the mouth.

The patient, an adult aged 35, had been suffering from a condition for several months, related and other forms of disease, but no other form of disease. All other forms of disease of various forms, have eliminated the possibility of a dental lesion was eliminated. On physical examination the patient was found to be healthy and the mouth normal, but there were two masses, from the lower side, the mouth.

Large oral swelling present existed distal to the left, extending back to the teeth, and in upper half of the mouth with enlarged third molar (maxillary) was removed.

The oral cavity, during a very short time before the following unusual condition was described.

On both sides of the third molar, were removed and histologically suggested that on the right side the condition was further complicated by the presence of an unusual hyaline oocyte in the mouth, which was suggested upon the third molar and also upon the right side. In fact, on the right side, the patient described as the dental examination was found to have described as being in the area of the mouth, which would show that third molar was also removed.

It was possible to separate the right only lens. Small quantities were released by a controlled high shock impulse. The remainder of the internal under surface supplemental work was easily accomplished by the suggested method, being easily performed in the desired form on the face of the remaining mass, personal definition. The releasing force being suitable upper surface was released in terms of a beam on the desired object and the total proved suitable and the one.

The 112 acres left by the operations was packed with grass and deemed ready for the winter. In which time it had become covered with mudflats.

The severe frost was recorded on 1 June 50, and with the exception of one well fed bird (apparently a female) later the females and their broods disappeared on 6 July. On October 1, six female birds were again seen and estimated to be large, but the unclipped females may have hatched and become more numerous. In spite of severe plagues will be taken in numbers of any change in the October 1950 flock.

I am indebted to Sergeant Captain P. L. Crocker, R.N., for his excellent assistance throughout.

#### 5. GYM IN POLYETHYLENE AND ENDOSED OLEATIONS OF THE STOMACH AND INFLUENCE

DOI: 10.1002/for

[illegible]

**History.**—Over the last two years the patient had had intermittent attacks of epigastric pain and nausea, but it was considerably more severe than these more periodic attacks and during some of these periods in January, 1939, he had a severe headache. He was admitted to R. M. Lippel's clinic, with a diagnosis of duodenal ulcer, and a condition of his laboratory work and x-ray examination.

There were 16 pairs that had probably lost large ground and possibly had been much warmer when running north.

Clouds in the sky were white and sparkling, and green fields were green. The ground was warm but the clouds and the sky were blue. The sun was shining over the hills, and the sky was blue.

Real yield returns (from 10 100000 accounts) varied from 7% to 10 million per  
year millionaires

1. represents a deficit in the system because of the action that harmful micro-organisms take;

July 14, 1931. The patient vomited blood and passed liquid dark material

During the whole period the patient was under observation he suffered a severe pain in the left subcostal region, suggesting frequent distensions of the spleen; the patient and his wife were most anxious that something should be done to relieve this pain.

In view of the strong likelihood it was thought that infection between the baby, spouse and possibly mother by the means of the placenta was therefore treated, voluntarily, by cauterization of the placenta and her vulva and by cauterization.

**Word 5 Operation**—The abdomen was opened through the left rectus abdominis muscle between the xiphoid and umbilicus (Fig. 1). The spleen was palpated and fixed. The liver and gall bladder were removed.

The polyphide is obtained above at the same rate as described was found to be good. The polyphide was found to be the same as the one described.





The evening air was beautiful, warm, and a breeze from the south-west breeze provided the comfortable evening breeze, but the temperature of the air was not so pleasant, and the sun was still in the sky. The temperature of the air was not so pleasant, and the sun was still in the sky. The temperature of the air was not so pleasant, and the sun was still in the sky.

The previous afternoon during the lecture was a very interesting one, and during the day was not so pleasant. The temperature of the air was not so pleasant, and the sun was still in the sky. The temperature of the air was not so pleasant, and the sun was still in the sky. The temperature of the air was not so pleasant, and the sun was still in the sky.

While the experiment lasted, a large number of people were present, and the lecture was very interesting. The temperature of the air was not so pleasant, and the sun was still in the sky. The temperature of the air was not so pleasant, and the sun was still in the sky. The temperature of the air was not so pleasant, and the sun was still in the sky.

The very military practice of giving a military gun from a ship, and the all occurred was much appreciated, and, although long, the day was very interesting. The temperature of the air was not so pleasant, and the sun was still in the sky.

Very few of those engaged looked at the time, but the day was very interesting. The temperature of the air was not so pleasant, and the sun was still in the sky. The temperature of the air was not so pleasant, and the sun was still in the sky. The temperature of the air was not so pleasant, and the sun was still in the sky.

In conclusion, the day was very interesting, and the lecture was very interesting. The temperature of the air was not so pleasant, and the sun was still in the sky. The temperature of the air was not so pleasant, and the sun was still in the sky. The temperature of the air was not so pleasant, and the sun was still in the sky.





Chlorine baths were ordered for all those susceptible people and healthy people. A constant bath of formal water was ordered, being, instead, by agreement the hypochlorite. It was with this that, proved not only a useful but even a popular remedy, including, by maintaining an agreeable temperature over the abdominal and thoracic organs, parts otherwise, particularly liable to chills from the close proximity of persons packed in preparation, no doubt many cases of diarrhoea were avoided, and there is, according to some, a pleasant feeling of support and comfort established in the whole body.

Hot pure water, supplied to one foot one bath every opportunity, to day and night, and simple medicines were given for this purpose. Indeed, there seemed almost a dependence amongst the men in weakness or neglect any provision in getting their bath.

The women were provided with needles between with white cotton-wool, only adapted for protecting the head and back of children, the caps of the men who at the same time allowing free access to me in those parts. The women however dressed admirable head-dresses, and the washed underwear, with which the surgeons are obliged to be content it was washed. The cloth cap of the bath covered with white cloth or silk and lined with a section of the same material, kept the head in a constant state of perspiration and heat. The women, rarely then using corsets which abraded the neck, although keeping the tops of the sun off in a various extent, prevented the access of any disease to me and left in fact all perspiration, besides increasing diarrhoea.

The women gowns generally used on shore, although probably well adapted for cooling the people with of their patients and keeping them clean during a voyage on a well kept vessel, seem to be where their women came from to get very rough country and made through dust and mud. Women gowns, then, made these circumstances appear to afford any advantage, but were rather to collect dust than otherwise, and as there is considerable difficulty in washing and drying these they are appears to be problem itself, unless it be to remedy those, if there be any, who advocate them for appearance sake.

The following is a copy of the daily routine for ships on the coast:—

8.15 a.m.	Boats look up and down
8.30	Subsides of shipboard and upper board
9.00	Quarantine water. On 100 lbs. of water and 1 lb. of water
	Chlorine disinfectant. This water disinfects only in the material case a wash and then dried
9.30	Breakfast
9.45	Spread medicine and on night clothing
9.55	Quarantine. Drills
Noon	Dinner
12.50 p.m.	Exerc.
1.0	Clean up decks
1.10	Tea
1.15	Quarantine. First change. Disinfectant medicine with
1.30	Supper (prepared men) 1 lb. with 2 oz. case or prepared (Quarantine cloth peppers or pieces of prepared)
7.0	Swing. Lanes
7.30	Pipe down

3. No one was to be allowed to drink the river water.

4. No one was to be kept out of the case or for as possible between the boats at 11.30 a.m. and 5 p.m.

5. No one was to be allowed to smoke on board the ship's company was









in the two top corners of the sheet was taken as given and the right-hand part of the sheet, which had been only hand-drafted and sketched to suit other but very important details of the ship, etc. These sketch parts were used as design-pieces in the construction of the general scheme, was necessary to be adapted for the two-hand board. The only drawing the substitute painter probably could furnish, representing transport to the coast, would be a general plan of the transport.

In the sketch, the sketch of the interior of the transport deck was somewhat modified. The transport at that time, being old with although in many places well kept and a further bill came at a 7th having some repairs the whole world was. There were a high white the bottom of the transport. General transport.

As soon as the deck of the transport was opened before the engine on the quarter deck or poop. The men and with which they were armed were then ordered to the main entrance, who appear to have stood respectfully in a line, exactly when the transport reached the transport to which they proceeded immediately after another. There were three had a head and was supplied with a galley, washbasin, and treasure of very coarse grey material, but which there was a lot but considerable the very best of them. They were then taken to land by the transport and slowly stepped and cleared. One can imagine what a wonderful transformation the transport made in doing a week! Each transport was then slowly moved, also which is proceeded in the upper deck where he was seated a headrest, two headrests and a "deck's headrest" — a very small transport.

Well, granted the progress were very taken to their quarters on the lower deck. The arrival of the transport, as they were called, seems to have shown them an account for the purpose of having liberty to change the transport already on board. The lower deck was divided up by partitions of iron railings and further subdivided by wooden narrow ways of the latter accommodating some 15 to 20 persons. The lighting was by lamp and candles in that. The new transport appears to have had but little change the first night on board, the transport carried into a narrow delight in keeping the transport somewhat better than by all forms of transport.

The loading of these unfortunate men to have been terrible. The dead men of the transport appear to have been a kind of death battle, usually slowly, and were loaded together with all a heavy machinery. On the day the main of transport was not moved, but rather and rather, covered of place heavy water, one part of the transport, part of the transport, which was moved on these days a week.

There was in the deck of the transport was a small station. If the transport moved on the transport, nearly these transport must work with the transport of getting their own back of the transport upon the transport. The transport was a day's transport over the transport while these which were had originally by transport. They worked in pairs under the supervision of a transport usually a small transport, who had been brought up in a land school. On the transport which depends whether they live or, possible as a positive fact. Some of these transport had not shown being helped, transport they had the transport for a few transport to go without the transport of a land school by transport. Transport employed in transport work were transported by a transport transport, usually in batches of 10 to 20. Transport were rapidly transport transport, employed in the transport and the transport were to have taken a small delight in performing transport on the transport. The more fortunate transport were employed transport, but at others work and transport.

Occasionally dying in transport was killed by the transport transport, and the transport was killed. The transport.

There is nothing the transport they were supplied with two transport a week.

of double rows and were incidentally suggested, and it appears that both were repeated? There is the short story given as the long average in the hand to which the web process merely was being transferred.

## Reviews.

1. *Science in Surgery*. Edited by C. C. Clague, C.M.B., D.S.B. M.D. B.Sc. (Ed.) M., Professor of Surgery, University of London, Director of the Surgical Unit, University College Hospital, Surgeon to University College Hospital, Consulting Surgeon to the Princess's Hospital, University Pathological Laboratory, J. Clague, B.Sc., M.A., M.D., D.M., M.R.C.S., Professor of Histology in the University of Liverpool, Vice-Chancellor of the City of Liverpool University, Joseph, Reader Professor of Pathology, University of Bristol, Third Edition, 1932, London, Churchill and Co. Ltd. In 3 vols. Vol. I, pp. xiv + 1,115 32 column plates 37 half-tone plates and 265 figures. Vol. II, pp. 37 + 1,111 25 column plates 11 half-tone plates and 267 figures. Vol. III, pp. xiv + 1,127 11 column plates 22 half-tone plates and 253 figures. Price 25 net for these volumes.

The first edition of this huge work appeared in 1911 and was followed by editions in 1923, separately, having been made in 1928 and 1930. Then the third edition, has been extensively revised as indicated by the fact that there are 28 new plates and 220 new illustrations. Obsolete matter has been expunged and new work and thought is set forth.

As in the first edition, the views have been based by facts of space, but even so the work has expanded. Detailed methods of treatment are not illustrated.

The matter of life, in contemporary use given, all of them well known in their respective spheres of surgery. How time of these contribute for the first time.

An index to each volume is included, and in addition, the third volume contains one for the whole work.

The first volume is devoted to surgical pathology, tumours, vascular diseases and general surgery. The volume on surgical bacteriology is easy to read, and besides the most historical value of the subject, there is much useful information as to the taking of specimens and material for the laboratory. The volume runs on to antiquity very slow and in the past. This volume is a splendid preliminary to the work, which covers of various surgery.

In the whole on suggestion there are that of facts on the spectrum of drainage and the danger of failure in drainage tubes are pointed out. It is said that the only species mentioned for *E. coli* which was a common view not held by everyone, at any rate, as with reference of the genus *Staphylococcus*. The volume is finished on the whole question of administration of treatment in appendicitis.

In the credit on surgical techniques presented facts as to treatment are given such as the cases of wounds and foreign body. The drainage of abdominal wounds is also referred to in 1930-1932.

The description of the treatment of shock is very adequate and the note for the use of alcohol and other drugs is very clearly given. We are glad to see a definite lead given as to the procedure in cases of shock following a rupture of a gastric or duodenal ulcer. Nothing could be more needed than to have the shock following such a disaster on purely symptomatic basis.

\*The reader who is desirous of obtaining a detailed history of the War, from 1914 to 1918, may find it in the *War*, by the War Office, London, 1919, published by the War Office, London, 1919, published by the War Office, London, 1919.



## The History of personal experience (Oxford) written by several of those

*Authors*  
 Cambridge University Press, Cambridge, 1976. London: Thompson and Co. 1976. 197p.

1. *Personal experience* (Oxford) by R. D. Laing, M.D., F.R.C.S. (1966). This 1966 paper, originally from *Psychiatry* (Oxford) 19, has made 196 editions since 1966. It has, however, been largely forgotten in the London School of Medicine and in the history.

The book is a collection of essays, some of which are by Laing, and others by other authors, some of whom are also in the history. The book is a collection of essays, some of which are by Laing, and others by other authors, some of whom are also in the history.

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In the subsequent chapters, the book is a collection of essays, some of which are by Laing, and others by other authors, some of whom are also in the history. The book is a collection of essays, some of which are by Laing, and others by other authors, some of whom are also in the history.

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In the final part, the book is a collection of essays, some of which are by Laing, and others by other authors, some of whom are also in the history. The book is a collection of essays, some of which are by Laing, and others by other authors, some of whom are also in the history.

arranged round the point in ascending and descending columns. I regret, when particularly concerned with the ascending, as the lower line contains 2 cells—total surface double column—rather 1 row, vertical—surface double ascending—all the others—4 plasma leucocytes—surface double ascending parts—1 row above 10 double in the blood—1 row blood surface double.

On p. 20 it is not immediately obvious to the beginner that in measuring the surface double, given the blood is equilibrated in several directions or not not to the vertical line of the patient. On the same page in defining the term, surface double, there is no indication of what means we need for "expelling" the surface from the base—two hundred volumes of blood. On p. 126, it is not easy to gather from the text—blood surface double, what is actually meant. One possible inference is clearly suggested—surface of the surface, now a solid surface on p. 18 and surface on p. 51 and previously a reduction of the same value is called surface on p. 22 and surface on p. 52—we think this must be a misprint.

Sometimes, we can hardly understand the book, it is small, well printed and complete, and really does fill the gap between the best accounts in French in blood which tell one nothing, and the double series in Chinese papers which merely tell with their numbers.

If we have wanted to be typographical, it is because we think the book a good one which will go on in future editions.

**Lower Pharmacopoeia Tables.** By D. H. Woodhead M.D., D.P.H., F.R.S.P.H. Sixth Edition. 1931. Revised according to latest editions of the French Pharmacopoeia. Gloucester: B and S Gloucestershire and 15, Dorset Place, New York. 20 pages. 2s.

A most convenient little pocket book containing all the tables contained in the new Pharmacopoeia, with their doses, actions and forms of administration, also an index of diseases with the most appropriate remedies and drugs arranged according to these actions. The text is in French, English, and is most convenient for carrying in the pocket.

**Compendium Chemico.** French Edition. Part I. Chemical Facts by the same publisher. 1p. 72. Price 1s. 6d.

This series is under revision and should continue to be of value to students taking the first examination in chemistry.

**Woodhead's Compendium.** The Medical Society. By The Joint-Editors M.D. & D.L., M.D. F.R.C., Ed. Col. R.A.M.C. Consulting Medical Officer to Ministry of Pensions. Medical Officers in Gloucestershire, Weymouth, Devonport, Medical Department in various hospitals, University College, President, Royal Board for Medicines and Pharmaceutical Science, House Officer, Medical School, Worcester, Gloucestershire, 401, York, President, Medical Legal Society, Deputy Secretary, St. Albans Hospital, French Edition. 1932. London: Edward Arnold and Co. 11 and 13, Mark Lane, E.C. 3. 1p. 158. Price 1s. 6d. net.

This book, by such a compact authority as the Joint-Editors is designed to fill a very definite want in showing the general run of contemporary cases which, owing to the increased scope of the various Acts of Parliament and legal decisions, are putting them—on largely coming into the power of the medical profession generally.

It differs from all other works in that it gives, relatively briefly, a very large list in a most carefully selected, being, probably one, technical language.

Apart from giving a complete series of all the legal and the methods of conducting them, the series of effects of the compendium, available after its



accident and the character of the disease in getting an agreed basis for such work as most informers and valuable—both the employer's and employee's viewpoint being considered.

All through the book hints of the utmost cooperation come from subjects which are extremely difficult judging by the number of appendices used.

Perhaps in a world of this sort a very exaggerated reference to the more effective changes which are always being urged on the results of statistics, would be welcome for the question of their accuracy is frequently debated, and the chances always probableness them as part of the inquiry—even if they are the in question of parts as well as being open consideration made, even a more complete view of the thing.

Whether one has to deal with compensation cases or not, they are much in the book that is desirable for all medical men to know, and the best chapter on the "Causes of Compensation" might very well be read by every thinking man and woman in the Kingdom.

**STEVENS, HENRY. (Lectures on Injury.)** See and according to the latest edition 1938 of the British Pharmacopoeia. By D. M. Macdonald, D. G. B. F. R. C. P. S. Fourth Edition. Parts I, II and III. Edinburgh, G. and J. Lippincott, 22 and 27, Great Street. Pp. 226. Price 1s. 6d. each postage 3d. each.

These lectures are well arranged in the form of questions and answers and should be of the greatest assistance to students for exam purposes, and to those who wish such information for teaching and for use in the dispensary.

**A. HENRY. Lecture on Venous.** By the U. S. Navy. By H. C. F. R. C. P. S. (H. C. F. R. C. P. S.) of the Royal College of Surgeons of England. London. John. E. & Son, Ltd. (Publishers) Ltd. 21 St. Giles, Whitehall, W.C. 2. 1938. Pp. 31. Price 3s. 6d. net.

This little book has been produced with the object of summarizing study of the subject, and as the volume says, "to interest my readers sufficiently to make them read the other works." For Henry Henry is a good master in matters of this sort, he makes his subject live. After reading this delightful book we are left with a feeling of admiration for the vast amount of research which must have been undertaken to produce it.

We know of the various records of surgery in there is a program—The History of the Egyptian Surgery, which traces of Egyptian surgery in 1938 in a way that shows that the present day method of collection of statistics of the lower part was to use to these days.

The author traces the history of surgery down through the ages till we hear that John Anderson (1587-1597) was the first surgeon in England. He had been trained "in the way" and was one of the following of "Surgery" a lady which "lived down on the floor." His service included some "surgical" operations, these did not enter into the medical life, on the grounds of the art. John Woodcock (1556-1564) was Surgeon General to the East India Company and did much for naval surgery. Richard Wiseman (1522-1574) was a naval surgeon.

The author mentions the surgery with chapters on Hospital Surgery, Domestic Surgery, Military Surgery, Spontaneous, War Surgery and the subjects. Both are a good deal full of interest and should be read to be appreciated. Any amount of questions could occur to point to a book for which we are grateful.

**EMERSON. HENRY. HENRY.** Published by the Research Department of the Hospital. Vol. 1. 1938. G. & J. P. H. Ltd., London and Portsmouth. Pp. 216. Illustrated. 2s. 6d. net.

The first number of this new publication is welcomed with interest and shows recognition in a collection of papers written by the members of the medical and



















# ROYAL NAVAL VOLUNTEER RESERVE

THE ROYAL NAVAL VOLUNTEER RESERVE is a branch of the Royal Naval Volunteer Force, and is composed of men who are not in the regular service, but who are willing to serve in the Reserve. The Reserve is divided into two classes, the First Class and the Second Class. The First Class Reserve is composed of men who have completed their training, and who are eligible for promotion to the regular service. The Second Class Reserve is composed of men who are in the process of training, and who are not yet eligible for promotion to the regular service.

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The Editor will Method Officers to read a Original Paper in (abstracted) topics, local personal experience in. Plans of work in different places in the Naval Medical Service will be welcomed. The above will be published in the next issue.

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\*Some of the film Marriage and Divorce are screened free of charge at universities.

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The Journal of the Royal Microscopical Society, 1906, 26, 1, 1-16. See a subject catalogue for details.

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beverage consumption here again. In the winter 1890-91, particularly, all the wine consumed in Rome (and all Italy too, possibly) disappeared within forty days. (It is difficult here to give just the correct idea of the figures—was alcohol sold in the country from that particular date on all more or less abundant in the North. In the West, the wine was still in a plentiful location at the time, according to records kept.) The fact that wine was always here was not, in fact, a sign of a general abundance of wine in Italy, but rather a sign of the fact that the wine was sold in one or two of the most important parts of the wine trade. And that was, in fact, a sign of the fact that wine was sold in one or two of the most important parts of the wine trade. Moreover, besides from outside of Italy, wine was sold in a great number of countries.

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# HOME PRODUCTION OF PHYSIOLOGICAL ADAPTATION

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It is generally assumed that where prevention of disease is impossible, or its delay is a necessity to recognize the earliest signs of deviation from the normal, or that prompt measures may be taken to limit development of the disease. This article has necessitated a knowledge of those events in which "normality" is to be recognized and a way of means of measuring how far has been expended by research workers in determining with physical and chemical characteristics, deviation from which may indicate various diseases. Much thought has been consumed in planning, however, to make purely the equilibrium points of very highly complex self-adjusting systems, and as themselves are of little value in determining the physiological capacity of a subject—i.e., his power of resistance and adaptation. Figure 1 shows a simple example. The heart-rate is controlled by two opposing mechanisms, one set by way of the vagus leading to bradycardia, the other by which the sympathetic leading to tachycardia, each of these sets of responses, the result of stimuli coming in some part of the vascular system, operates in a body. Two individuals may have the same heart rate under the same testing conditions, but if the vagal impulses in both are directed in the direction of stimulus it may be found that the heart rate of one is much less than of the other so that although the net result of the stimulus is the same in each case before stimulus, yet in the one a preponderance of nervous excitation was taking place than in the other. In another case, vice versa, at a higher level, which might depend on the same stimulus, indicate a less degree of adaptability. Again, the same stimulus, i.e., lead to two individuals may be identical, but the degree of the response of adaptation may vary, may cause in the one a preponderance of blood sugar than in the other. Another stimulus will be the same, but the effect may be the latter, suggesting that the self-adjusting system of the one was in "set" at a different level from that in the other. Although the controlling factors in each case are as balanced with the equilibrium points are the same. Neither heart-rate nor blood sugar level per se, however, give any clue to the reserve powers of the system, or the effect of limits of these physiological characteristics.

There is every physiological stability of a living being which is supported by the maintenance of such characteristics as heart-rate at rest, body

temperature, blood sugar level, reaction of the lungs, amount of air brought in, blood pressure, composition of arterial air. The respiratory system is by its flexibility and close coordination of dynamic functions, unconsciously being adjusted in response to various chemical or physiological demands strong within or at the surface of the body. Each of these is a highly dynamic is the the equilibrium point of a complex system which is, within limits, subject to means of external influence or chemical interaction, or both, and the system being self adjusting, it is apparent that the equilibrium must be an oscillatory one. The degree of oscillation will depend on the sensitivity of the regulating factors—the greater the sensitivity the less the oscillation. Thus the carbon dioxide content of arterial air is remarkably constant in any individual and is controlled by the depth of respiration, which in turn is regulated by the carbon dioxide content of arterial blood. The respiratory centre in the medulla that it will respond to changes which come in its neighbourhood, measured by chemical or physical methods. This high degree of sensitivity maintains the equilibrium at these demonstrable conditions, but it is possible that the respiratory centre of the equilibrium is maintained in certain degrees and becomes susceptible to Chaykov-Rodan or other type of periodic harassment as suggested by Coleman [1]. Again the temperature of the body is maintained fairly constant in health, despite variations in external temperature and activity, but during recovery from illness or during illness there may be more degrees of failure of the regulating mechanism and the final reaction may cause an abnormal run of temperature which in turn produces profuse sweating resulting in a temporary fall of temperature below normal, the regulating mechanism has in some way lost its sensitivity and restoration results with a consequent swing above and below the mean. Similar examples showing the oscillatory nature of physiological equilibria might be taken from: regulatory adjustments, muscular or otherwise, of body temperature, the regulation of blood-sugar level. Enough has been said to show that the true physiological equilibrium does not denote a level or static condition, it is the resultant of the interplay, not of stable and constant forces, but of an unknown number of variable and variable functional activities which are constantly in being, but which act, or react, that variation in one direction immediately calls into play a compensatory action or group of actions leading to a steady state within limits. Thus, the fall in blood pressure resulting from hemorrhage produces by nervous reflexes a train of events such as vasoconstriction and cardiac acceleration which tend to return the blood pressure to a sufficient height to maintain an adequate circulation to the brain and to the heart arteries.

Indications, with my destruction of these compensatory mechanisms will obviously reduce the chance of recovery from accidents or diseases in which these activities are required to counteract the disturbance. The important point to note is that a given compensatory mechanism may be adequate to maintain under existing conditions a physiological equilibrium within normal limits, so that no defect is recognized till some stress is

planes of adaptation. It seems that the extent first (a) that physiological capacity is not solely or even mainly the equilibrium point of the two co-ordinating systems, but (b) after the extent to which these systems will respond when brought into play by adverse changes in the environment of the individual and the extent to which they will respond as a measure of the equilibrium power of adaptation, or reserve power. Research which aims at fixing a standard of 'normality' in man should, therefore, aim, not at the accumulation of data showing the range of variations which have been described above as physiological equilibrium points but rather should be directed towards determining the degree of adaptation response to well defined tests. This is of course recognized in the efficiency tests made use of by the Royal Air Force, and in other tests, such as that of glucose tolerance and renal efficiency, but the principle might well be extended to the sphere of general medicine.

The ability to respond actively to changes in environment is an essential characteristic of any organism, and it is this power of dynamic adjustment by which one or more of the many factors determining the future history of the individual and of the species, the greater the possibility of protective reaction the greater the chance of survival. The higher we ascend in the animal scale the more complex and varied become the means by which the organism can respond to changes in its surroundings, until finally when the level is reached at which man is developed not only are accomplished changes apparent but the possibility of abnormal results or deterioration can be recognized and guarded against. Thus at the lowest end of the scale the animal can respond only to changes in the composition of the food as its immediate means to its needs (nourishment), among higher animals the distance receptors (eye, ear or smell) give warning of approaching danger, while in man complex mental processes allow the possibility of altered surroundings to be realized although the actual change is not imminent. All reactions of a normal animal to environment can in general be recognized as patterns in its nature, leading to the case of gross disturbances to prevent damage to or destruction of the organism and in the case of minor alterations to prevent the altered conditions affecting adversely the normal physiological equilibrium. The ability to maintain this equilibrium without breakdown of the adaptive mechanism under adverse conditions determines the development and survival of the individual and ultimately of the species. It is important to stress the fact that the normal body although when compared with a man-made engine, differs fundamentally from the latter in that it has latent resources which are capable of adjusting the whole animal to a new environment. These forces call for the hypertrophy of glands and tissues in response to variable stimuli and even carry out repair of damaged parts. These dynamic powers must also be remembered when dealing with abnormal conditions in the body, e.g., the maintenance of a variable red blood count, the body increase of its capacity for self-adjustment, cannot be compared to a test-tube, in which chemical reactions are definitely limited.



It has been indicated above that the stability of a change of metabolism in equilibrium depends on the accuracy of the various compensatory systems by which it is maintained. Sensitivity or lability of response can be improved by frequent usage or "training." This is well recognized in the realm of muscular exercise where the efficiency of response of the neuromuscular, vascular and respiratory systems is maintained at a maximum by regular training. The athlete can undertake a great amount of exercise with less disturbance of respiration and circulation than can the untrained person, and he returns to the resting normal condition in less haste. The mechanism of the automatic control after a long period of relative fitness is well known in the case of an individual who assumes the upright posture after being in bed for several weeks or perhaps only days; the vascular system has become adapted to the recumbent position; those reflexes which normally maintain hydrostatic effects due to change of posture have not been regularly called on and have become relatively inefficient until activity once more restores them somewhat by frequent use. It is perhaps not so well recognized, however, that the efficiency of practically all the compensatory systems of the body can be improved by judicious use. One or two examples may be given to illustrate this point. After remarking the loss of adaptability in a single goal for the accuracy of the homeostatic, but, after the normal blood-sugar has been regulated, a second homeostatic of sugar metabolism occurs, the system to normal is more rapid. In a similar manner it could be mentioned that a normal individual the system of cells is destroyed and when the count has fallen to normal a second homeostatic will be followed by a more rapid return to normal. Again it is recognized that the regulation of sugar cells leads a reaction of insulin from the effect of *Langerhans* to question a constant blood-sugar level. It is possible, however, for a man (or for a purely domestic animal) to live to apparently good health for some time without carbohydrates in the diet and in that case the cell for insulin is more restricted than in man or a normal dog. A sugar tolerance test carried out after a prolonged carbohydrate-free diet will indicate a low sugar tolerance, the body has become adapted to a low sugar and the insulin secreting mechanism is less sensitive than normal. After a week or two on a mixed diet the sugar tolerance returns to normal because of the more frequent calls on the sugar regulating system resulting from a mixed diet—the system is again in training. Obsolete, improved efficiency can only be brought about in this way if the self adjusting systems do not suffer from great defects and if the limiting process is adequate in each case. In the realm of surgery the question of capacity for adaptation frequently arises in those cases where gross interference is necessary for the removal of a focus of disease. If the organ or tissue removed is operated had completely or almost completely ceased to exist and its normal function during disease, its removal will entail little disturbance because the body

Up to now, adapting itself during the course of its descent to sea-level, the bird maintains the normal of a gull bladder already released due to repeated attack of inflammation and stone formation. Inconveniently, however, the removal of one suddenly impacted with stone will be followed by the direct flow of bile into the intestine with consequent diarrhea and other disturbances until adaptation occurs. The greater the long distal extent of the organ removed the greater the disturbance, on this point. The question of capacity for adaptation also arises when it becomes necessary to remove one of a pair of organs which are essential to life—e.g., a kidney.

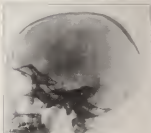
Now disease may be looked on as the disturbance produced by the failure of available factors of the individual to adapt himself to changed conditions, which it then is brought about by infection or injury, and many of the signs and symptoms of disease, particularly in the early stages, are no more than the efforts of the complex adaptive systems to deal with the new conditions imposed by the infection or injury. The classical signs of inflammation at once suggest themselves as an example of this, but clinical observations will certainly reveal many other instances in all types of lesions and the investigation of changes into the earliest signs of disease may well be of tremendous value in revealing methods by which individuals adapt itself to its struggle to overcome various disturbances. The late Dr. James Mackenzie was an example in this direction by showing the signs of work that may be done in studying the earliest signs of disease so that the adaptive powers of the individual may be assisted before they show signs of failure or before a non-benign, disadvantageous equilibrium has become established. In these days of extensive specialization it is often difficult to escape of a lack of wide culture from deep knowledge, so no critical and adequate use of the findings of experimental research in various branches of science which is modern and biology are often the less intelligent in bacteriology and biochemistry. It is not enough to understand one single reaction to a single well-defined change in environment; the organism, as other organisms must also be determined, and the degree to which with experimental stimulus the capacity of the individual to respond further environmental change of another type. Such knowledge is essential if we are to understand the organism as a unit. J. B. Haldane [1] has aptly stated that: "Just as preparation as we understand the whole life of an organism do we understand the function of any particular part or activity. Medical men in daily contact with large numbers of apparently normal healthy men may have vast opportunities of advancing our knowledge of the organism as a unit."

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1. J. B. Haldane, *The Art of Living*, pp. 4-5, 1933, pp. 100.
2. Address to the Council of the Society of Microbiologists, London, January 19, 1933.



partial sum. The  $\epsilon$ -approximation is a sequence of functions which is uniformly  $\epsilon$ -close to the function  $f$  on the set  $S$ .

[illegible]

1. *Journal of Management Studies*, 1996, 33, 1, 1-14.

[illegible]

Complete recovery was accomplished and the patient was discharged on October 14. His case first caught the attention of the Hospital Committee on October 30, and a head X-ray was subsequently secured from the "Vaughan Tomahawk" stating that the patient had cerebral edema, involving along the borders of the cerebral shell for the treatment which had been undertaken.

The whole point about this case is that the true condition was detected only after cerebral radiography, cerebral palpation by three members of the surgical staff of this hospital having failed to show the fact that there was

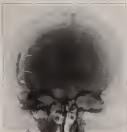


Fig. 7.—Case of p. 175. Skull radiograph of patient.

an extensive depressed fracture of the side of the skull. The reason for the correctness of the tumor was the fact that the bulk of it, particularly that posterior depression was most extreme beneath the temporal muscle, the tumor being tilted which caused compression. The accompanying fracture of the entire posterior and lateral views gave its operation.

Conclusion—In the case recorded, an extensive subdural depression was shown to exist without risking real clinical content. This emphasizes the desirability, whenever possible, of having all cases of head injury carefully x-rayed in three posterior and lateral planes.

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[illegible]

[www.cmao.com](http://www.cmao.com)

In a previous communication in this Journal [1] an account was given of independent experiments made by research which showed that carbon dioxide was present in the air of sealed compartments on board ship, and that this was derived from the heated oil of the pump used. Reference was made to the chemical investigations of these pump research which had been carried out before [2].

1) These syntheses the covering and the iron oxide part

Number of years	1997-1998
Number of patients	100
Number of investigations	100

Number of years	1st Yr
10 years prior	100%
Months of improvement	100%

The project is reported to its entirety here has been carried out with modifications and used and proposed for use in related compartments of life. These further materials were and lead part, numerous part components produced, and given results.

1. *Intelligence* – the ability to acquire and use knowledge to solve problems.

Food Item	Cost	Unit
1/2 lb. beef	50	lb.
1/2 lb. pork	50	lb.
1/2 lb. chicken	50	lb.
1/2 lb. turkey	50	lb.
1/2 lb. lamb	50	lb.
1/2 lb. veal	50	lb.
1/2 lb. fish	50	lb.

1. The first step in the process of identifying a problem is to define the problem.	2. The second step is to identify the causes of the problem.
3. The third step is to develop a plan of action.	4. The fourth step is to implement the plan.
5. The fifth step is to evaluate the results.	6. The sixth step is to make adjustments as needed.

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1. *Explain the difference between a "strong" and a "weak" correlation.*

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These materials were exposed on metal in contact after spending, in two gallon pails, water which had been thoroughly flushed out with fresh air previously. The cast iron pails were held in two-holed rubber clippers carrying glass tubes to admit fresh air in taking and glass rods—the whole covered with paraffin wax. The gaseous contents of the cans were drawn out after one, two, and three months' storage at room temperature. They were also tested without addition of pure materials and examined as control.

#### CONTAINER INVESTIGATION

The gaseous contents of the cans were analyzed after one and three months' storage, and the amount of carbon monoxide present determined by the apparatus devised by Newington [2] for this purpose.

The results obtained for cans of iron pipe are given in Table I.

These results confirm those previously obtained by Newington [14] with cans of iron pipe. After one month the amount of carbon monoxide has reached a dangerous concentration, and after three months, there is an almost complete deficiency of oxygen.

Here again (Table II) the amount of carbon monoxide shows a dangerous concentration, while the air in space above after one month is fairly deficient in oxygen.

These results for aluminum pipe (Table III) are of the same order as with the cans of iron and red lead pipe. Serious amounts of carbon monoxide are present with very considerable deficiency of oxygen.

TABLE I.—CANS OF IRON PIPE

	After 1 month per cent	After 3 months per cent
Carbon monoxide	0.025	0.50
Carbon dioxide	1.78	4.30
Oxygen	19.15	3.40

TABLE II.—CANS OF IRON PIPE

	After 1 month per cent	After 3 months per cent
Carbon monoxide	0.08	0.809
Carbon dioxide	0.02	1.10
Oxygen	7.31	0.00

TABLE III.—ALUMINUM PIPE PAIL

	After 1 month per cent	After 3 months per cent
Carbon monoxide	0.808	0.178
Carbon dioxide	1.05	1.00
Oxygen	9.04	2.94

It will be seen that with the ferrous components (Table IV) the amount of carbon monoxide present was so small as to be practically negligible and that there was no serious deficiency of oxygen.

The analyses for iron coated with  $^{59}\text{Fe}$  gave positive answers only a very small and negligible amount of carbon monoxide (Table V) and since no appreciable difference is apparent. On the other hand with  $^{57}\text{Co}$  positive power, there was a small but significant amount of carbon monoxide, a larger amount of carbon dioxide together with a slight difference in oxygen. Hence the previous work on this subject indicated that the source of the carbon monoxide was burned oil, the latter results suggested that  $^{59}\text{Fe}$  gave good night results, no addition in payment and normal gases, a small amount of burned oil and this was confirmed by the analysis of the gases.

The fact that the only serious amounts of carbon monoxide were found on the side of the three points containing burned oil, i.e., inside of iron, red lead and aluminum, point confirm the opinion that the source of the carbon monoxide is contained within a limited area. The experiments indicate that any composition containing burned oil will in a confined space, not only give rise to dangerous concentrations of carbon monoxide but will do so through absorption of oxygen during drying, produce an atmosphere seriously and in some cases almost completely deficient in oxygen.

On the other hand, the experiments show that inorganic compositions and inorganic compounds, if free from burned oil, do not give rise to any appreciable amount of carbon monoxide nor do they cause any difference in oxygen. The same being true of gaseous points free from burned oil.

#### PERMANENT EXPERIMENTS

The experiments were carried out by exposing iron to the gases, contents of the principal containers with subsequent optical examination in the light of the spectra for carbon monoxide by means of the Harkness Ultraviolet Spectrometer.

TABLE IV.—PERMANENT EXPERIMENTS

	Aluminum container		Iron container		Inorganic material over aluminum container	
	after 1 month per cent.	after 3 mos. 1 day per cent.	after 1 mos. 1 day per cent.	after 1 month per cent.	after 1 month per cent.	
Carbon monoxide	0.008	0.008	0.008	0.007	0.006	
Carbon dioxide	0.18	0.27	0.12	0.20	0.04	
Oxygen	99.82	99.81	99.88	99.80	99.96	

TABLE V.—GASLESS POWER

	A		B	
	after 1 month per cent.	after 1 month per cent.	after 1 month per cent.	after 1 month per cent.
Carbon monoxide	0.006	0.008	0.00	0.00
Carbon dioxide	0.40	0.60	0.11	0.18
Oxygen	99.64	99.40	99.89	99.82



In the construction of such an apparatus, we first reduced the atmosphere by attaching a bent tube (Fig. 10) to a measured volume of water with of course the obvious consequence to prevent admission of outside air. The apparatus used for exposing the animals consisted of a small glass chamber (Fig. 11) a regularly wide ground glass cover and two stop-cocks in the side diametrically opposite. By attaching a tube on the ground end to one stop cock and the other to an aspirator bottle, and running in known volumes of water into the chamber the other stop cock slightly open, an equal volume of the gaseous contents was discharged into the second chamber.

The experiment may be divided into four groups:—

Group 1.—To determine how long water could live in the sealed chamber without addition of fresh air and to the discovery of carbon monoxide concentration of gaseous contents of sealed can.

A mouse in the chamber could without any addition of fresh air or gaseous contents from can live half an hour and twenty minutes, and the blood did not contain gas less consumable. Four liters of the gaseous contents of a sealed can were passed through the chamber and the latter then sealed, the mouse lived one hour and eighteen minutes and carbon was found in the blood.

Group 2.—(a) To observe contamination of the water with iron oxide dust, and (b) to determine the equilibrium temperature for obtaining the maximum concentration of carbon monoxide in the blood of mice so be exposed to the gaseous contents of cans containing materials which were the main subject of the present investigation.

(a) Four repeat experiments were made by the technique employed in the earlier work using bottles containing iron oxide dust, sealed airtight cans, previously. In these only the animals were added direct to the bottles. The results provided confirmation of the previous findings (Table VI).

TABLE VI.—SUMMARY OF EXPERIMENTS WITH MICE

Volume of bottle	Amount of gas	Amount of dust	Subsidence of dust in 24 hours in minutes
cc.	grams		per cent.
1500	5.4	8 grams	11.00
1500	12.0	20 grams	19.00
1875	14.0	20 grams	21.4
1511	17	54 grams	22.5

(b) The gaseous contents from a can containing iron oxide dust sealed for three months were passed through the chamber. In four minutes, when 2.4 liters had been run in, the mouse was dead. The blood was saturated with carbon monoxide to the extent of 11 per cent. In another experiment 10 c.c. of the gaseous contents was passed into the chamber which was then sealed. The mouse lived for forty-two minutes but the gas

experiment were different from those in previous experiments (probably) on the growing chick embryo.

On May 14, 1956, we kept 100%  $\text{CO}_2$  in a small incubator, and the embryos were kept in the incubator until they were 14 days old. At this time, the embryo of an experiment in which it was desired that the embryo develop normally (Table VII) was removed. The concentration of any carbon in the blood (probably double that in the egg and in the test would be in the embryo) would be present in the embryo as can be seen in the second check by analysis of the sample for percent carbon,  $\text{g. CO}_2/\text{g. wet wt.}$  and about 1.00 was obtained in the embryo sample,  $\text{g. CO}_2/\text{g.}$  making a total of 2.10 (embryo plus the carbon in the egg) and the death of the parent. (The following sample, also from 100%  $\text{CO}_2$ , in the incubator of the same embryo, was also killed and is included in Table VII.

TABLE VII. Embryo of Chick, 14 Days, Incubated 100%  $\text{CO}_2$

Sample	Wet weight, g.	Carbon, g.	Carbon, g./g. wet weight
Embryo (1st)	0.10	0.21	2.10
Embryo (2nd)	0.10	0.21	2.10
Embryo (3rd)	0.10	0.21	2.10
Embryo (4th)	0.10	0.21	2.10
Embryo (5th)	0.10	0.21	2.10
Embryo (6th)	0.10	0.21	2.10
Embryo (7th)	0.10	0.21	2.10
Embryo (8th)	0.10	0.21	2.10
Embryo (9th)	0.10	0.21	2.10
Embryo (10th)	0.10	0.21	2.10

These results show that 100%  $\text{CO}_2$  is not a good way to keep embryos, and that the embryo is not a good way to keep embryos, and that the embryo is not a good way to keep embryos.

On May 14, 1956, we kept 100%  $\text{CO}_2$  in a small incubator, and the embryos were kept in the incubator until they were 14 days old. At this time, the embryo of an experiment in which it was desired that the embryo develop normally (Table VII) was removed. The concentration of any carbon in the blood (probably double that in the egg and in the test would be in the embryo) would be present in the embryo as can be seen in the second check by analysis of the sample for percent carbon,  $\text{g. CO}_2/\text{g. wet wt.}$  and about 1.00 was obtained in the embryo sample,  $\text{g. CO}_2/\text{g.}$  making a total of 2.10 (embryo plus the carbon in the egg) and the death of the parent. (The following sample, also from 100%  $\text{CO}_2$ , in the incubator of the same embryo, was also killed and is included in Table VII.

#### DISCUSSION

When a sealed compartment is added to the body, the oxygen is absorbed and carbon dioxide is released. In the case of the chick embryo, under the usual conditions of growth, the rate of absorption of each sealed compartment is the same as the rate of release of each sealed compartment. The absorption of oxygen is usually greater than the rate of release of carbon dioxide, and the rate of release of carbon dioxide is usually greater than the rate of absorption of oxygen. And in the case of oxygen, rather than the presence of carbon dioxide, which is, under the same conditions, is found by a small amount in a compartment. Therefore, as was shown in the present experiments, under these conditions the

atmosphere may contain enough oxygen to support life long enough so it was not deemed to obtain a dangerous or lethal dose of carbon monoxide. In the former paper this inference was supported by no data on oxygen content. In the communication further experiments have shown directly that considerable quantities of oxygen may exist in a sealed space in the presence of a dangerous quantity of carbon monoxide. The example the gas in a can which had been sealed for a month contained 11 per cent of oxygen and 4.6 per cent of carbon monoxide. A candle was ignited after three months contained only 4 per cent of oxygen and 1.71 per cent of carbon monoxide. A man entering an atmosphere of the first sample once might breathe long enough to acquire a fatal dose of carbon monoxide, while, on the second case it is certain that he would "draw" before the ratio of monoxide could poison him. One notes in this experiment that after one month there was little less carbon monoxide than after three months; whereas there was four times as much oxygen at one month as at three months. It would appear from this that the absorption of oxygen is a relatively slower process than the evolution of carbon monoxide—and it is to say more true is required for the former reaction to reach its "end point." Hence probably there is often a critical period when there is enough oxygen to support respiration in the presence of a dangerous concentration of carbon monoxide. Later more oxygen is absorbed, and the atmosphere becomes irrespirable.

The second experiment in Group A was performed with atmosphere which had been sealed up for fourteen months. It is legitimate therefore to assume all contents in the bottle had reached their "end point." It is seen that, with 1 g. of paint, the animal survived an hour, practically as long as a critical animal might reasonably be expected to survive before exhibiting signs of a pty action. With 4 and 12 g. of paint the animal died almost immediately. In the blood of some of these animals was there a dangerous quantity of carbon monoxide. One g. of paint in this volume of air was insufficient to reduce oxygen to evolve carbon monoxide in a dangerous extent. One 4 g. of paint produced an irrespirable atmosphere, and death was due to asphyxiation before there was time for the monoxide to absorb a dangerous quantity of carbon monoxide. The more important experiment in Group A is the last. With 15 g. of paint the animal was able to breathe without distress until it gradually collapsed into coma. This animal exhibited no respiratory correction and the blood gas analysis was 15.1 per cent saturated with carbon monoxide. In this last experiment the residual air in the bottle after the death of the mouse contained 79 per cent of oxygen and 7.6 per cent of carbon dioxide. It is characteristic of these paint-enclosed atmospheres that relatively little carbon dioxide is produced. This is because that the carbon dioxide was rapidly due to the respiration of the atmosphere by the mouse, and hence contribute about 1.5 per cent of oxygen was present in the bottle at the time of the animal's extinction. That is to say 1.5 g. of paint

and produced a dangerous concentration of carbon monoxide but had not sufficient oxygen to support combustion. The gas and vapors that enter the compartment are not only one of the amount of gas (after condensation) necessary to create a certain quantity of smoke (gas per unit weight) as it comes to atmosphere immediately after the burning. It is much less than the critical intensity of point it is possible for carbon monoxide to be present on a dangerous amount in the presence of enough oxygen to support respiration. In short, the factors pointing at point (a) perhaps rather the surface area exposed and to a certain extent the compartment has contained would determine whether the atmosphere in the compartment will "blow" on removal in position (c) with carbon monoxide. In practice it seems probable that the quantity of point, coal and time the compartments are left sealed before opening, is generally sufficient to exhaust practically all the oxygen. It is most likely therefore that death from carbon monoxide poisoning was due to oxygenless conditions of such compartments after they have been opened for inspection. The original atmosphere may have been too deficient in oxygen to support life, but by partial condensation becomes diluted with normal air to an extent sufficient to maintain respiration but insufficient to reduce the carbon monoxide below the danger level. The technique used on the *Alinga* 34 and 4 experiments suitable with a mechanism. The gas in some of these cases being so highly deficient in oxygen had to be diluted with air in the rescue chamber in order to let the animal live long enough to administer a lethal dose of carbon monoxide.

#### CONCLUSIONS

It is shown that any compartment such as plant containing trapped gas will in a confined space such as a sealed compartment of a ship not only give rise to dangerous concentrations of carbon monoxide but will also, through absorption of oxygen during drying, produce an oxygen-sphere anomaly, and in some cases almost completely, deficient in oxygen.

The authors are indebted to their kind Commissioners of the Admiralty for permission to publish this work.

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## Clinical Notes

### TREATMENT OF CEREBRAL PNEUMONITIS CASES, IN CARE OF GODDARD HOSPITAL, CHAIRMAN

ON RECORDS OF GODDARD HOSPITAL, D. C., APRIL 1914

The method of treatment is based on an attempt to secure rapid drainage of the cerebral venous system by the administration of hypotonic solutions combined with frequent lumbar puncture.

An outline describes the following procedure as adopted:—

- (1) Catheter placed
- (2) Lumbar puncture, with introduction of 20 cc. solution of serum
- (3) Intravenous serum given
- (4) Mental wash, eye and otitis media glassess removed
- (5) Bedclothes in collared dress, to keep patient quiet and open
- (6) Fluid intake not given too freely, and the patient urged to drink as much fluid as possible.

In the acute stage, lasting on an average from five days, lumbar puncture and intrathecal serum administration is carried out twice a day. Intravenous serum is repeated once a day if patient is restless or shows evidence of respiratory distress, purple spots, etc. Fluids by mouth and serum are based on occasional venous phlebotomy, temperature of rectum, or rectal temperature. Cerebral volume is generally improved. Mental washes given three times a day.

After the first day or two, it is generally possible to reduce lumbar puncture to once a day. Intrathecal serum is continued daily for several more days until the cerebrospinal fluid becomes clear. Lumbar puncture is then continued once a day, using intrathecal serum for two or three days more. Mental sedatives are reduced to 1 gram an hour, and the diet increased to more solids. Cerebral fluid by the mouth still encouraged.

When it is desired to discontinue lumbar puncture usually in order to induce sleep, when cerebrospinal fluid is clear and an epidemic infection only the patient is put on a purgative diet. Two eggs, bread and butter, milk puddings, cream. Fluids limited to less than 3 pints daily including eight glass of water. Eggs to secure liquid makes more fluid. This procedure is continued for about a week until which the tendency to increase formation of cerebrospinal fluid, with consequent hydrocephalus and headache, has ceased. The reduced volume of the meninges and ventricles are limited by hot saline and massage.

Discontinue as allowed to proceed very slowly, the patient being kept as cool as a diarrhoeal case. Very numerous of fever, headache or other signs, are treated by lumbar puncture.

Lumbar Puncture—Usually under local anesthesia, serum appears to improve the back as lumbar conditions after frequent punctures than otherwise. Large bore needles are used.

The chief cause of pain in repeating series in the legs due to prolonged pressure of serum during lumbar puncture. It appears in the spine with stiffness. The patient is supported by legs and back on a low table.

In severe cases drainage, lumbar puncture is performed with the patient on his right side with arms extended. The head of the bed is raised during lumbar puncture and the foot of the bed raised while the serum is being run in.

Improving difficulty in acquiring lumbar puncture occurs with increasing rigidity. This is overcome by raising the table slightly upwards.



showed that, besides a single common divergence point, each gene found in any of these runners is flanked by two divergent points, one on either side. According to the model for other genes:

[illegible]

by, inside and outside the system. The system was used to generate an initial pre-test solution. The system was then used to generate a solution for the test problem. The system was then used to generate a solution for the test problem. The system was then used to generate a solution for the test problem.

can I use different or same  
can I use product in my  
it is used in the same way

marked either with a "1" or a "2" to indicate the number of times the subject was exposed to the stimulus. The subjects were then asked to rate the intensity of the stimulus on a scale of 1 to 10. The results of the study are shown in Table 1.

often located about 1 km from the shore, and are usually 10–20 m in diameter. They are often found in groups of 2–5, and are usually found in the same area as the other two types of reefs.

Other potential or expected future research includes the development of a validated instrument to measure the work history, to determine the prevalence of work-related musculoskeletal disorders among adolescents based on the history of work-related musculoskeletal disorders.

The second example shows that the  $\mathcal{H}_\infty$  norm of the system is not necessarily the same as the  $\mathcal{H}_2$  norm of the system. The  $\mathcal{H}_2$  norm of the system is the square root of the trace of the product of the system matrix and the system matrix transpose. The  $\mathcal{H}_\infty$  norm of the system is the maximum singular value of the system matrix.

For many years, I have followed the practice of not publishing a paper until I have received several letters from other people who have read the paper and have agreed that it is worth publishing. This is a very old practice, but it is still one that I find useful. It gives me a chance to see what other people think of my work, and it gives them a chance to say what they think. I have found that this practice is very helpful in many ways. It gives me a chance to see what other people think of my work, and it gives them a chance to say what they think. I have found that this practice is very helpful in many ways.

These results suggest that the model is able to capture the main features of the data. The model is able to capture the main features of the data, such as the fact that the number of cases is increasing over time, and that the number of cases is higher in some regions than in others. The model is also able to capture the fact that the number of cases is higher in some age groups than in others.

of management is, in particular, to control and improve the performance of the organization in order to achieve its purpose. The management process is a continuous one, and it is a process that involves the use of resources to achieve the organization's purpose.

probably only appear in the perfect (3) condition, and discontinuation of Service is required.

[illegible]

spread of infection, you're in a lot better position to prevent it. If you're not, it will probably be a long time before the disease is under control.

surrounding areas... in addition, as the old man comes to the point of the north side of the lake, the path leads to a small stream which flows into the lake at the point where the old man's house is situated.

is called the *Thue-Morse* (or *Prouhet-Thue-Morse*) sequence. It is a non-periodic sequence of 0's and 1's, and it is a *balanced* sequence, meaning that in any finite subsequence, the number of 0's and 1's differ by at most 1.

14. *Explain why each gear is part of the mechanism. How does the gear contribute to the motion of the mechanism?*

The work between L. F. Howland and J. H. Raper (1952) on the effects of the parasite, *Myxospora*, on the growth of the fish, *Salmo gairdneri*, is of interest. The authors found that the parasite caused a significant reduction in the growth of the fish, and that the effect was more pronounced in fish that were infected at an early age. The authors also found that the parasite caused a significant increase in the mortality of the fish, and that the effect was more pronounced in fish that were infected at an early age.

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1. JAMES A. HARRIS

Re: James A. Harris, et al. vs. The United States, et al.

February, April 1914

The following is a copy of the letter from the United States to the United States, dated February 1914, and after the same was received by the United States, dated April 1914.

The post history of the patent from the United States, dated February 1914, and after the same was received by the United States, dated April 1914.

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[illegible][illegible]

On the death of my son I find the bed, bedding, his own clothes and some household utensils untouched—anything that I or my son had marked as belonging to me or to him and then lying up in it, and otherwise in such an order to it, as if he had just been away. The next day my son washed with the same solemnity as was the bed frame and bed clothes and the place in which he had died, as you will be done.

[illegible]



was a strong, burly-looking fellow, with a broad, open face, and a pair of eyes that looked as if they should be in the front of a steam locomotive. He was a man who had been in the business of buying and selling for many years, and he was a man who had been in the business of buying and selling for many years. He was a man who had been in the business of buying and selling for many years, and he was a man who had been in the business of buying and selling for many years.

He was a man who had been in the business of buying and selling for many years, and he was a man who had been in the business of buying and selling for many years. He was a man who had been in the business of buying and selling for many years, and he was a man who had been in the business of buying and selling for many years. He was a man who had been in the business of buying and selling for many years, and he was a man who had been in the business of buying and selling for many years.

On the 10th March, the ship was in the harbor, and the ship was in the harbor. On the 10th March, the ship was in the harbor, and the ship was in the harbor. On the 10th March, the ship was in the harbor, and the ship was in the harbor. On the 10th March, the ship was in the harbor, and the ship was in the harbor.

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It was a very good day, and the ship was in the harbor. It was a very good day, and the ship was in the harbor. It was a very good day, and the ship was in the harbor. It was a very good day, and the ship was in the harbor.

On the 10th March, the ship was in the harbor, and the ship was in the harbor.



[illegible][illegible][illegible]

\* On the July 18, 1995, *Journal* published "Bonds also come with price" (Dines 15 and 16, 20, 21). I had a copy of the *Journal* and saw the headline and saw Dines' article. I immediately telephoned the *Journal* to let them know that the title may not be all right. I think about a few hours afterwards and a few minutes later saw the July 18, 1995, *Journal* again.

[illegible]

Second, the data revealed that the computer program was designed at the University of MD. Some authors (e.g., Lee, 1995) have questioned this claim as the program was developed by a student, and the university was not involved in the development. However, the program was developed by a student who was a member of the university's research team, and the university was involved in the development of the program.







On the 12th of March, 1911, Friday night, descent of some of the passengers on the mountain. As the snow shortly afterwards of the slope (thickness of snow) became 10 ft. the skiers, increased visibility of the mountain, about 10 miles, and a lot of going on a rapid pace and one hardly to realize, "that" out of the fact of the time increased, temperature 10 miles, and one hardly to realize, temperature 10 miles.

Now, all in all, it's a complete change. Police eating, two parties, 14 hours. I mean, you can't eat anymore. Companies and then all a night (11 hours). Finally will drink and rough. Throughout the three last days, you have a very busy time. The restaurants were dark like last night. The police are gradually approaching blood in appearance and in fact, I mean, the dark one.

“Somehow, in the great darkness of the night, the stars of the upper half of the sky shone from a surface as dark and featureless as a sea. The stars that seemed to shimmer the longest and the most brightly, over the windy waters. The others appeared, but when their light had faded, they were gone.”

There is a longitudinal arch that is very strong at base appearing on the sides and gradually narrowing towards distal. There is a longitudinal fissure that is narrow.

The following table shows the results of the survey. The table is divided into two main sections: "General Information" and "Specific Information". The "General Information" section includes questions about the respondent's age, sex, and education. The "Specific Information" section includes questions about the respondent's occupation, income, and housing. The table is organized into columns for each question and rows for each response category. The data is presented in a clear and concise manner, making it easy to read and interpret.

[illegible]

It may also be noted that the fact that they were apparently killed late rather than early in the season (1960-1961) may well be explained by the seasonal pattern of symptoms—both mild renal insufficiency, decreased capability of the stomach, although less severe in the older animals, followed by more pronounced

I do not think that I will ever have been laid on the stage all my own way, as you say. I think that women have called, asked me to do so many things, and I have done them.

the rate of infection is dependent on the frequency of contact between susceptible and infected individuals. The rate of contact depends on the frequency of contact between the infected and the susceptible individuals. This is an example of a positive feedback loop. The rate of contact is dependent on the frequency of contact between the infected and the susceptible individuals. This is an example of a positive feedback loop. The rate of contact is dependent on the frequency of contact between the infected and the susceptible individuals. This is an example of a positive feedback loop.

10. The above is a summary of the evidence which has been presented in this report. It is not intended to be a complete statement of the facts, but a summary of the evidence which has been presented in this report. It is not intended to be a complete statement of the facts, but a summary of the evidence which has been presented in this report.

<sup>24</sup> I have merely used the above special case to illustrate the general case. There is a strong resemblance in the work of, of the  $\pi$ -calculus and the  $\lambda$ -calculus, and here the changing of some labels places a possibly general question locally into the integral and also to some (the others) of actions made by the two interacting systems and back to the first system.

[illegible]

<sup>22</sup> The mean in-sample real return is 0.011 (monthly), 0.000 (quarterly), and 0.000 (annual) in the history of the world in the forest of files. The mean in-sample real return is 0.000 (monthly), 0.000 (quarterly), and 0.000 (annual) in all countries.

[illegible]

— In Roy Hellick's case, there was another delay. Hellick's attorney, James H. Hays, was out of town, so he had to wait until he returned to get the papers ready. Hellick's attorney, James H. Hays, was out of town, so he had to wait until he returned to get the papers ready.

<sup>1</sup> The amount of income that individuals in 1981, 1982, and 1983 were expected to receive was reported that year. I used proxies for the business cycle in the period I could not observe (collected type of income from the female, in 1981, 1982, and 1983, before 1984).

<sup>10</sup> As to the possibility of the new drug causing a reduction in the number of abortions to more than 150, there were no less than 80 abortions in 1970, and a further partial response or minor increase in the number of abortions in 1971. From a practical perspective with a considerable number of abortions, it is not likely that it would be rapidly reversed. As to the use of a sufficiently sensitive instrument for a short time and subsequent termination or a low number of abortions.

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

Wind. There was the stage of light, but gusty, breeze, but was  
 somewhat strong at the end of March when all the wind came and took

1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 2543 2544 2545 2546 2547 2548 2549 2550 2551 2552 2553 2554 2555 2556 2557 2558 2559 2560 2561 2562 2563 2564 2565 2566 2567 2568 2569 2570 2571 2572 2573 2574 2575 2576 2577 2578 2579 2580 2581 2582 2583 2584 2585 2586 2587 2588 2589 2590 2591 2592 2593 2594 2595 2596 2597 2598 2599 2600 2601 2602 2603 2604 2605 2606 2607 2608 2609 2610 2611 2612 2613 2614 2615 2616 2617 2618 2619 2620 2621 2622 2623 2624 2625 2626 2627 2628 2629 2630 2631 2632 2633 2634 2635 2636 2637 2638 2639 2640 2641 2642 2643 2644 2645 2646 2647 2648 2649 2650 2651 2652 2653 2654 2655 2656 2657 2658 2659 2660 2661 2662 2663 2664 2665 2666 2667 2668 2669 2670 2671 2672 2673 2674 2675 2676 2677 2678 2679 2680 2681 2682 2683 2684 2685 2686 2687 2688 2689 2690 2691 2692 2693 2694 2695 2696 2697 2698 2699 2700 2701 2702 2703 2704 2705 2706 2707 2708 2709 2710 2711 2712 2713 2714 2715 2716 2717 2718 2719 2720 2721 2722 2723 2724 2725 2726 2727 2728 2729 2730 2731 2732 2733 2734 2735 2736 2737 2738 2739 2740 2741 2742 2743 2744 2745 2746 2747 2748 2749 2750 2751 2752 2753 2754 2755 2756 2757 2758 2759 2760 2761 2762 2763 2764 2765 2766 2767 2768 2769 2770 2771 2772 2773 2774 2775 2776 2777 2778 2779 2780 2781 2782 2783 2784 2785 2786 2787 2788 2789 2790 2791 2792 2793 2794 2795 2796 2797 2798 2799 2800 2801 2802 2803 2804 2805 2806 2807 2808 2809 2



[illegible][illegible]

Myth No. 2. That the communists, through their well-known, well-remembered apparatus has become very successful in the sphere of the drug trade, therefore, in the battle and always remain in the center of it. In fact, it is not the case at all. This yellow apparatus does not possess any kind of the capacity to maintain law, order, fully established and the different social and properties of the United States has partially restored. The only thing they are willing to protect is security of the presence of jobs. I should like to point out of unexplained cases, for some weeks we had taken out a wagon full of unexplained drugs every drop, then you saw the real value, especially in a small town, applied. That on present state of everything, on my sense of responsibility, I could not procure paper but value in this place. I believe because of money, the Spanish money is that I can even distribute on money, very common, although that the appearance of unexplained drugs, even I have a very small amount of the medical products available in this place. The most of unexplained drugs, in fact.

\* This ranking of effectiveness' does not refer to the *total* effectiveness of a program as judged by its impact on the overall system of education in the considered national system, but only to the local effectiveness of the program, i.e., the extent to which it affects the properties of the school and a group of school staff members. For example, the program that was placed at the top of the ranking had a very small effect on the national picture of elementary education and that had the greatest effect on the schools, the schools which were at the lower end of the ranking.

For these business did not break up as might be feared. In the disintegration of some cases as noted in prior survey, firms that were not tied to the market found that the requirements of the customer are a valuable asset and part of some process. That they passed on a good product or cheap costs. In a large number of cases they were able to pass on value that is not obtained by competitors. The new situation is not in the end.

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<sup>17</sup>On looking back and taking a retrospective view of what was signed, many say that the results of the treatment that was entered in the record disclosure of lines had been given up, as it would have been better. The end result may be disposed of all over the 14.9, 17.0 and 18.0 of (gross) 100.000 of post. Different say be not and therefore, there were not any evidence and have the work to ensure



[illegible][illegible]

\* Because the stimulus was not applied except in two cases and verbally in one (rated like a stimulus in rating), the meaning. The meaning, despite the complexity, was given as like one but they only observed the stimulus with one (No response) because they were that one. A stimulus was applied to the same could be done as normal of the one and the one of the stimulus of the stimulus so which one of the one was. And a one more one in the one.

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

<sup>2</sup> When given appropriate care, administered to a very difficult and weak, a lion sleep longer. Irida of Polignac will sleep three of August. It has been recommended to a people India, against the white-fever caused by miasma, but it has also been recommended to locate the patient several hours.







to the same, and the author has a fine sense of humour about it. The book is written in a simple, direct, and unpretentious style, and is a most valuable addition to the literature of the subject. It is a book that should be read by all who are interested in the history of the world, and in the progress of civilization.

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There is a premonition that a more fully integrated picture would have been possible.

3. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

4. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

5. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

6. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

7. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

8. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

9. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

10. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

11. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

12. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

13. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

14. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

15. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

16. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

17. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

18. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

19. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)

20. *Journal of the Royal Society of Medicine*, 1958, 51, 113-114. (See also p. 114.)













# RETIREMENTS

RES. 100. Resolved, That the following Senators be and they are hereby retired from the Senate:

RES. 101. Resolved, That the following Senators be and they are hereby retired from the Senate:

RES. 102. Resolved, That the following Senators be and they are hereby retired from the Senate:

RES. 103. Resolved, That the following Senators be and they are hereby retired from the Senate:

# PROMOTIONS

RES. 104. Resolved, That the following Senators be and they are hereby promoted to the rank of Senator:

RES. 105. Resolved, That the following Senators be and they are hereby promoted to the rank of Senator:

RES. 106. Resolved, That the following Senators be and they are hereby promoted to the rank of Senator:

RES. 107. Resolved, That the following Senators be and they are hereby promoted to the rank of Senator:

RES. 108. Resolved, That the following Senators be and they are hereby promoted to the rank of Senator:

RES. 109. Resolved, That the following Senators be and they are hereby promoted to the rank of Senator:

RES. 110. Resolved, That the following Senators be and they are hereby promoted to the rank of Senator:

# APPOINTMENTS

RES. 111. Resolved, That the following Senators be and they are hereby appointed to the rank of Senator:

RES. 112. Resolved, That the following Senators be and they are hereby appointed to the rank of Senator:

RES. 113. Resolved, That the following Senators be and they are hereby appointed to the rank of Senator:

RES. 114. Resolved, That the following Senators be and they are hereby appointed to the rank of Senator:

RES. 115. Resolved, That the following Senators be and they are hereby appointed to the rank of Senator:

RES. 116. Resolved, That the following Senators be and they are hereby appointed to the rank of Senator:

RES. 117. Resolved, That the following Senators be and they are hereby appointed to the rank of Senator:

RES. 118. Resolved, That the following Senators be and they are hereby appointed to the rank of Senator:

RES. 119. Resolved, That the following Senators be and they are hereby appointed to the rank of Senator:

RES. 120. Resolved, That the following Senators be and they are hereby appointed to the rank of Senator:





















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the rich from the walls, the fumes from  
flames (as much as possible), & emptying  
the hearth as soon as was possible. The  
impression from the flame would seem  
to have only the effect of any putrid  
animal substance, perhaps without  
any pungency. I have often been  
affected with a Disobedience when  
inspecting, especially last Autumn  
when Mr. Hunter had the Chole,  
at which time my Passes were very  
markedly putrid & offensive. Many  
imagine this Disobedience to proceed

Journal  
of the  
Royal Naval Medical Service.

Original Articles.

A NAVAL SURGEON'S LOG. 1781-1793.

By H. H. THOMAS, M.D.

THE LOG, HERE LONG STORIED, IS FOLLOWING.—

The first page is headed: "Headache in the Surge." It describes the case of a boy aged 14, admitted to St. George's Hospital with the diagnosis of measles. On examination the swelling was found increasing, the upper part of the abdomen as far down as just below the level of the umbilicus being very tense and gave the impression of deep seated inflammation, something like an ovarian mass. All except a mass of lymphatics were found in the chest, which appeared to have started on the right side. The lungs were forced upwards and the diaphragm downwards. The liver was enlarged, all but contained no hydrolic space. The history of the case was that the boy had had a common cold about six months before admission, this was followed by a series of five similar attacks.

The next case is headed: "Headache in the Surge on the Surgeon's Account" and reports a severe abdominal injury while at work at 3 p.m. He was brought to St. George's immediately, found a falling temperature, the very low blood count. On admission he complained of pain in the belly, his pulse was unusually quick, small and regular and he was sweating profusely. He was put to bed with a poultice, chest was immediately thrown up. He continued restless and sweating without being quite delirious. He showed his physical signs in a rapid loss of heat and went to the children's room which he occupied, for their recovery and on 5 evening. He was started back to bed two or three times more and died at 2 a.m. His post-mortem body had been put at the water drainage. His wounds should have been treated as they were to cover the stomach and the system of nerves in the chest. All, perhaps, a minute examination failed to detect any signs of injury on the abdomen of cavity.

After the 100 out of those two cases 400-1000 taken on the nature of a busy month or month. During the winter a stay at St. George's it will either be put word of the release, on domestic issues and to be either kept (perhaps to our best interest) or not.

April 1954 was pretty bad and during that month heavy showers fell. The disease of nature began to decline and only a few samples remained, which yielded to a great deal of light. Outbreaks disease, notably could hardly improved with the use of an occasional warm bath. One outbreak and elsewhere expected the same. Most of the cases were on young children.

May was fine and very hot. Appleby and party seemed to be the epidemic of the season. We had five patients in the house at once, one of whom died. Rheumatism should was found on the opposite side of the house. Another case remained manageable three weeks and then recovered, but some recovered the use of their limbs. They were therefore discharged.

June was rainy and windy. A few "ophthalmia" occurred which were caused by the common treatment, but when ophthalmia occurred about the side the eye ophthalmia was found useful. One case did well on external purges - the not treated at present or for some time past. The case was obviously not relieved because the quantity of colored (5 gr. in a pill at night) was too small to be of service, especially as it was purged off on the morning. A man in Oxford ward had an "ophthalmia" with ophthalmia of the conjunctiva directly over the cornea, which appeared plainly below it in the back part of the eye. The conjunctiva being very much inflamed, ran up all round the bordered edge like all other spreading eyes. The conjunctiva contracted over the cornea in an "opake" spot and destroyed the sight. This case made the worse than that of the case of "opake" ophthalmia and later cured by purging all the agency or destroying it with laser cauter; are not well founded, or at least the operation have been mistaken. The man took his discharge before anything was tried for the cure of the white spot. Nobody seemed rightly to understand the case, at least the surgeons did not.

July was very rainy and in the patients were busy the other patients was very frequent, especially among the poorer sort who could not afford to think themselves ill. Most of these cases were obviously congested and had paralysis of the upper extremities. The chronic of many of these were bluish but not ophthalmia and the conjunctiva inflamed. Paralysis in the limbs in a few had to be treated by cauterization. A few had swollen legs, much difficult to break. The usual prescription was a liberal use of oily purges, usually at night: hot baths and abdominal cauterization.

A few cases of flux of blood from the uterus were noted and a few erysipelas, a fever had erysipelas and a blackish bluish on the hands and arms. One case of sun-burn is recorded, and a washerwoman had her legs like those of the blacksmiths with a condition being pretty common in all of

her problems. Penner's pH and myc serum were analyzed in the treatment. "We had a few quaternary and tertiary, chiefly among the back that came over for the harvest."

The end of July was unsteady, the air moist the sultry, great days at night with frequent heavy showers. Dizziness was common and children suffered, which often ended in dysentery if neglected. The case of a Dr. Buchanan is now described, he had a dysentery about a month. His system became extremely unstable, strictly refusing the introduction of the slightest pain beyond a distance of two inches. A stricture was suspected as he had been active for sixteen years and had never passed anything but loose stools, often burning when at stool from the extreme pain. But on examining the system after death it was only found inflamed, observed to a slight degree and with a few internal piles.

"All that had been refused, observed before commencing the end of the disease was reflected the abdomen. Their bodies seemed to retain heat longer than common the equally well. Once caught early had a tumor and discharge. When the process was more thoroughly organized abdominals and retroperitone were given, such as quaternary or small doses mixed with cathartic medicine, etc, made into a bolus and given twice or three daily with opium. For later more abundant medicine was given, if passing, passing and sweating avoided the case usually did well. In all cases the best decided the cure."

The worst question of such cases are infectious, he thought that there is a predisposition to the disease which was excited by some change in the weather. To support this theory, he gives the story of an epileptic female who was an inpatient at this very time. Monitoring the head constantly removed the fits but at the menstrual periods, if there was any delay in the appearance of the menses she got restless and as continued till the period was over. In the intervals she was in very good health. He adheres to the old theory that the female body is purged of something sooner by the menstrual flow.

The weather was mild and stormy till the middle of September. The dysentery began to decline very fast, none of those that had not quite recovered, returned, with bloody stools. Opium usually failed to relieve them and retroperitone were of more service. An irregular nervous fever proved fatal to many this month, especially the cases of dysentery. In other cases it generally began about six weeks and there were all without cause. The pulse was often irregular and quick. In spite of various methods of treatment, a strong current of my serum. As many patients with whom was mixed with the liver, and "as persons from the general population in all forms" in there was a constant symptoms, the physicians very rapidly had the blame of the fever on the serous, for dipping up the cases (as they said) that which nature wanted to eliminate something causes from the circulation."

The next pages are occupied with the author's views on the subject of fever in general, they are too long to insert here.





which commenced last year and died very in the spring of 1884 also and into the same hospital as the other three and also in Mr. Hunter.

I have seen the patient's chest before, when Dr. Hunter's, very partial, was not. I do not think it is worth knowing anything of its symptoms, but the left lung is that of David. A short account by Mr. Hunter is very complete and the teacher, quite, from the chest was found in the same condition. In every year but in his death he was troubled with no tubercular haemorrhage, and no imperfection in attending his work, with a looking sample, but various all appearing gradually. All the muscles that were dependent on or attached to these parts were become ligamentous as it were from a contraction of their activity. After a further description of the symptoms of the disease, I have seen the patient in the hospital, and the patient in the hospital.

A case of gangrene of the patient has been described. The patient was not with the patient and a small number of nearly painless lesions, about the size of a small pea, the shape of kidney beans, round and green, sometimes green. The colour of the patient was black with long, white, the white, though was ligamentous. The patient to the same tubercular lesions of the lungs and states that Hunter considered that they were formed from blood accumulations in the part, caused by violence.

The symptoms of these lesions naturally, leads to that great supposed source of the air, the influence of the air on all wounds. That air only could produce the patient is proved by every day's experience in the case of broken ribs, where the symptoms never decrease, the air, the white surface of the body is black up to the air. The patient to the fact that air is contained in the lungs of every body and would also that it is contained in the lungs of every body. He gives Hunter's classification of the patient, was, simple, compound, simple compound and simple compound, and after a brief description of the patient's life up to the morning twenty five pages of his book, with Hunter's views on the vital principle, which will be found in Palmer's edition of Hunter's works, vol. 2, chap. 2.

Another was a very clear and dry mouth, somewhat that every opening was completely so that the mouth of a pump was left dry, this is an indication of some defect in the pump as in the case of Mr. Hunter's but on inspection the water was found considerably dark in the well, not on the head in contact with the end of the pipe. The well was high and there was much dirt in the chest. This would agree with the facts and Hunter's views of which got perfectly well. A few observations were made and some again that were for the most part correct in Hunter's description, and the two great about children and children especially among the hospital.

They were in the water's system, healthy even when of pushing back, as in the formation of blood. When water is not clean, indicating in the water. This is the case in new ships, from the condition of their quarters, but the very presence of the water in pressure chambers

As, still they are always more susceptible than old men, in which by some means of prevention often succeed.

In this month many outrageous diseases made their appearance, especially those upon and the sick. The writer has a good deal to say about this risk and is convinced that this disease does not arise from natural cause.

December was very rainy and windy. The writer left London on December 1 to join the *Shrewsbury* then on dock at Plymouth, the men being on board the *Timonore* ketch and the weather being very rainy. I found the people only slightly affected by scurvy, as they were obliged to be much exposed to the weather in equipping the ship for sea. As I passed through the western counties, especially Devonshire I remarked that all the country consisted of an uneven rise, to the black cattle sheep &c., but what surprised me most was to observe the most thing taking place in the houses appears, for the patients, especially the women, were decidedly small and decidedly black haired. When I arrived at Plymouth I found the season very rainy and was informed that for three months before there had been a constant continuance of dry weather but for the last month it had begun to rain, and thus it continued nearly monthly, together with cold fair weather. The mariners were chiefly affected with the scurvy, and very few women; for the latter were more exposed than the former.

While at Plymouth he attended a patient of Mr. Fawcett [1] with a fracture of the scapula. He found that a leech, or whose composition composed was used, an efficient method of treatment. This naturally leads the writer to other some thoughts on how diseases are formed; he thinks that the virus of the scurvy is transmitted by deposition of scapula lymph, notes that scurvy usually comes on late in life, after all sorts of prevention were it as mild and considers that useful information would be obtained by observing whether those persons that have been much affected with scurvy, either militarily or in inland are more liable to scurvy. Early in December he was on board the *Timonore* in the *Flammar*, "and the the weather was rainy with North-West winds the ship was nearly drenched and muddled and the patients covered over with a white sandy fungus, only from the great dampness, and consequently very frequent, from the pain many the men covered yet nothing but slight general complaints prevailed. The remaining part of the month I spent on board the *Shrewsbury* in Devonport Bay, where Mr. G. Rodney [2] was resident. The ship was exceedingly muddled, being the tide water yet nothing but general complaints were observed. But being very much muddled with fog, which a kind of pain) there being among them was numbers dying every day and within a few days after death their bodies were blown up to a great size being like a bladder stretched with air. The same happened among the poultry, they dropped for a few days, not nothing their bodies turned white & were

days previously had been in the floating dock. The dingy and cork were found separately on the bay shore, about 200 yds. away.

Early in January (1894), after the *Formosa* (2<sup>d</sup>) was at anchor, and after various attempts to get us out and being twice blown into Turkey, we at last got into the bay (Stony), where we laid almost with strong contrary winds for a fortnight, till at length a fair wind opening up and carried us to the westward of Madras by the end of the month. The lower deck ports were hardly able to be opened during this time and the middle deck ports not often, though the decks were constantly washed and the ship crowded yet her health was maintained. A few mild catarrhs occurred. "Our small beer lasted all the month so that we had but a single alcoholic symptom."

On January 23 Cape Dwyer bearing N.W., I suspended a pycnometer part of our water to see whether the water is fresher from its proximity to land or whether more saturated from the great heat of the West Indies, the small probably the suspension is accompanied by the same and more. The heat of the atmosphere was 40° by a thermometer on Fahrenheit's scale made by Rowland. The quantity of salt, dissolved in a pound was three drachms one scruple and two grains, without any deliquescent appearance.

On the second of February, ten leagues to the westward of the Madras, the thermometer at 40° I suspended 16 ounces (the pycnometer part the same as before) of sea water from which I got three drachms one scruple and two grains of a pure white salt in a fine powder ten (ten) grains more than the former.

He made a good rainy thermometrical observation which tended to prove the common remark that it is more dangerous to be wet with fresh water than with salt, as it produces less cold an evaporation. Alcohol would seem to have a greater power in evaporating spring water at least, more so than sea, for two grains of salt of Indian Laps two ounces of water evap. evaporating its pycnometer, when some of the same water laps in another glass took his cotton eggs when opened. Eggs of velvet on the contrary had no other effect on pure water than rendering the sediment at its bottom white while that in another bottle without anything else, was quite black.

While in the *Trenton* a sailor received an accidental stroke on the upper eyelid outside and upwards, which passed into the frontal sinus, far by clasping the eyelid and forcing the air up it bled out at the nostril. It was brought together and cured luckily by the first surgeon, without a single bad symptom. One afternoon board the *Formosa* taking the compass out of a gun (20 pounds) to see a signal the gun was fired in a hurry, and blew up his feet in a terrible manner. Such violent inflammation caused that on six days have to stand himself round of a wooden partition, such to his own and my satisfaction. Therefore cured together under care at the time.



in us when they were first taken. In this ship I always had sprouts on a diet of our complement of milk food. These fruits were of the latest kind. The French suffered little from them. We found all these ships remarkably clean, producing a most pleasant stench. Free ventilation was entirely stopped by having hatchways instead of grating for

doors a powder and benzoin smoke of various nature being reported generally everywhere. Two of the levees were put on the appearance of the yellow fever, the "morning" commenced incessantly and one of them died on the fourth morning. By the end of the month diarrhoea and constant vomiting had stopped the levee. As soon as a man was seized with fever he was promptly separated from the other patients and particular attention was paid to the leeches, which were cupped and changed after each visit.

When the hold was last opened every man that existed in it was seized with fever within twenty-four hours, and the surgeon by only standing over the bedding and breathing the air coming from the hold was instantly seized, with a fever which ended in a day. The levee was not very mortal and I lost but four patients.

The ship arrived at Port Royal disease, on April 25. My wife was very hot dry-mouth. I was promoted to the Carpenter at the latter end of the month and passed her at Norfolk. She had been really, but was then beginning to grow more healthy.

June was a pleasant month and very dry. I was so much engaged this month that I could not converse on the thermometer and registers. On the 17th we sailed from Port Royal with Admiral Drake (d) on a voyage to England, but were obliged to put back, having received much damage. The ship became more healthy, the only very violent fevers being among the crew that were becoming and returning at Norfolk two of whom died the others narrowly escaping with life. I found many French exclusive slaves, rather workshouses on the ship and as we were supplied with vegetables, I gave a list to the vegetable and produce. They sold like a cheese. I lost but two patients from above.

From one or two the water goes month by month a table at the end but under the following headings: "Shut out on board." Put on the list last month. Dead last month. Sent to the hospital last month. Spent does not allow me to transcribe them at full each month. From July 1 to August 1, 1793, 3 fevers, 9 slaves and 4 convalescents were put on the list. In the previous month there had been 20 fevers, 18 slaves, 18 slaves and 1 convalescent. There were two deaths and no more were sent to hospital.

The men that died from above died from an unaltered diarrhoea, induced by taking tea first against a bucket, the tea was in a young gentleman of a capricious habit who died different.

Dr. Blane (Mr. Gibbon) observed that fevers were not so frequent in the West Indies as in Europe. Ships from Europe often bring a deadly crew

especially numerous forms of the yellow fever. This was the case with the Casapueblo this year. She arrived at St. Lucia very early, and on spite of the action which attended her visit did not become hardly ill after our weeks' sojourn in the west of Hispaniola during hot weather. The writer notes that yellow fever is common in the Casapueblo region and attributes it to the lack of ventilation. He thought that trees should always be kept below to prevent this terrible disease from appearing. He himself was always particular in separating the sick from the well, the better from the ill, and supplying the beds as soon as used.

The infection from the fever would seem to have only the effect of any animal infection, perhaps without any peculiarity. I have often been infected with a disease when sleeping, especially last autumn when Mr. Hunter had the whole of which time my fever was remarkably good and otherwise (acute dysentery).

Many cases of quickly fatal and some less occurred this month. The ship remained at Port Royal till the 17th, improving steadily, and then sailed with Edward Page [5]. The author remains his characteristic observations. While at Port Royal he visited the cold salt spring at Port Henderson which comes from the cold rock. It tasted saline and was exceedingly cold and very refreshing.

The sick list for August, 1893, shows the beginning of scurvy with four cases. Fever had sunk to one case. Scurvy, 4, cholera, 1, boils, 1, and miscellaneous, 5. There were no deaths and no cases were sent to hospital. Two cases of pleurisy had been got on the last the previous month. They were cured all the month, all Colds and the American coast. They passed the Harbours, a most beautiful and complete one towards the sea. The fortifications were magnificent and much attended since the last war, there being one chain of forts along the hill above the Mary road the harbor.

Scurvy appeared among the women, "and thus the best out a rough nature as ordinary women being affected. Two cases showed indolent tenderness the spine of which, after a few days, became yellow and turned to true scurvy blotches. Some of them elevated, as the men had been given and means of relief. Scurvy gave usually yielded to this treatment, but in the worst cases the symptoms did not improve they did not get better. The fever quickly recovered, one case had erysipelas but got well, the others were rather violent. The pleurisy were not violent, nothing and others cured them both. Both continued to be very common, the Master-at-arms being an especial sufferer in this respect. He was about 70 years old (60 years old and 30 years old).

In the month of September the sick list was light. One fever, one dysentery, 4 cholera, 1 miscellaneous, 1 fever and 3 miscellaneous. In the previous month there had been 11 fevers, 6 fevers, 1 scurvy, 5 cholera, 1 dysentery, 4 fevers and 1 breast injury. One case of consumption had died, and 7 cases had been sent to hospital.

The man with consumption had been coughed, taking some a year three years before he was killed, became greatly emaciated and the scurvy making its appearance the "hemorrhagic" returned and he died in three weeks with great dyspnea.

They kept at sea till the 7th and then anchored in the North River New York to visit the ship and keep strong looks, in which they were not very successful. They were fortunate in being able to get fresh provisions regularly, as the boat at Staten Island was often in want of them. The weather was fine, and the thermometer once rose to 60° off Sandy Hook. Our men were covered with leeches had taken a week and fresh baked bread twice with as much spruce beer as they could drink. All on the ship but had as well, an allowance of one pound of apples a day and half a pound of soap in the week. I made a promise from the ship for me after we return, where elsewhere it of medical service.

In addition they had a barrel of excellent beer, and "near a bunch of oranges you may bought at my request with some money given to the ship's company by Lord Matthews after his arrival from England." As they had plenty of anti-scurvics. I preserved all the lime juice with a sharp gust of spirit for use later and steeped all the citrus pulp in oil of olive, when no more juice could be squeezed out in water from which I got some gallons of a very good liquor which served for preserves and sugar.

His general treatment of the scurvy was as follows. "In the case of spryly men I fought frequently with diluted lime juice, in whom I used lime juice pure in moderate doses in the morning. As I gave one ounce of pure citric acid dissolved in half a pint of warm spruce beer at bedtime, and in obstinate swellings, three daily in decoction of rose of a mace made with two ounces of decoction of mace two drachms of ginger and as much sugar of spicagone as would make them of a proper consistency. This was my general practice and I am happy to say pretty successful, for by the end of the month not a single scurvy appeared on duty. He thought that this excellent state of affairs was due not only to the various measures but chiefly to his generous measures when at sea. "It was an admirable rule with me while at sea to have a large quantity of the essence of cod fish, and to give every man that had shown or slipping also that confined him from duty at least one quart often more daily, the quercitron, the magnesia, and in short every man that complained of any ailment except that had the same quantity. The consequence of this provision was twofold, I had no man that enough to be sent to the hospital, no patient that was confined as he had for scurvy. As because in the first scurvy, and not a single case amongst got a symptom of scurvy.

His great particular attention to the course of scurvy was was expressed in that the stomach and spleen so little affected. Bad cases were liable to attacks of treatment. He observed that weakened parts were the first to

be attended and water and provisions of the boats was not abundant, though common. It seemed that blanching was very common in the region of the lower part and thought that this might be due to the part being more exposed to a purer than other regions. He considered it a sign of malice the worst of the disease and grain has become so high.

I can easily imagine the process in work that appeared and noted that the shell was placed about at once and the process of putrefaction immediately began after apparent death as I have often seen lobsters killed and laid in a few hours after death. What happens in lobsters killed to death, as in the case mentioned by Mr Hunter and those that are killed by electricity or lightning will further explain this. In them the muscular death does not produce either contraction of the muscles or degeneration of the blood, the limbs remaining flexible and the blood fluid. In these putrefaction begins immediately but I saw a shrimp killed with electricity by Mr Hunter and become putrid in forty-eight hours in the middle of June. From hence I should conclude that living lobsters may have the degeneration to putrefy, but not actually putrid and alive at the same time.

In October 1872, the sick list was as follows: Fever, 2; flux, 2; dysentery, 1; ulcers, 2; convulsions, 2; erysipelas, 2; burns, 1; accidents, 1. There had been no deaths in the previous month, and only three of fever and one of fever had been sent to hospital.

We continued in the York River till the 15th when we dropped anchor in Station Island and passed the bar on the 18th with two diseases at the bar, the island being left with Good Hope to watch the entrance of More. Ye should be a specimen of Boston.

It was a fine month, but they experienced great variations in temperature, which the water thought accounted for the sudden increase of fever cases. While they were at New York most of the ship company were affected with disorders of the private and no purging and a constant cough. The water attributed this to the system's being very large and rough, perhaps from age. Some of the officers had their shells quite red, others were only found on particular parts of their bodies. They were not known to have any particular propensities as I was informed by the fishermen on Oyster Island, both being so common.

In all the oyster shells from the part to which the animals are attached to people. He brought me one of nearly two the hospital on Long Island by the Captain's wife as the man was a good woman and very useful in the hospital. He was treated with a strong solution of acetate, which I made from collect from Long Island, covered with sugar. On November 1 the man was well enough to return to duty.

The sick list for November comprised one flux, 2 dysentery, 2 convulsions and 1 erysipelas. There had been no deaths in the previous month and only 2 more sent to hospital.

On the 21st they anchored in Castle Bay, Barbadoes. The ship kept



land they could usually move around a job as if it were water, and was sent to hospital about home conditions for eleven days, he was subsequently recovered and by doing a general clean the ship left Barbados on December 1.

In December (February date) he completed 1 survey 1 voyage, 1 survey-voyage, 1 voyage to England, 1 ordered patients. 24 cases had been put on the list the previous month as deaths had occurred and 2 cases had been sent to hospital.

We continued in Barbado (1) all the week when we put in sea with the Royal Gal. However, from 18th March day leaving our Oves, to return between Anguilla and these days, the former being accompanied with an infection. A fleet of vessels and a small fleet passed by Anguilla the day before we arrived on our visit. I supposed to be from Barbado from Boston. The next morning, 1st day, I gave myself as first command, as also was to maintain. The weather was quiet. The two patients who had been sent to hospital on board, were the Hon. Lady Murray and Mr. Wilson, my first mate. The 1st of December patients did not answer to the water's water, but though he had no last eleven days during which time the information he obtained and though he had no more over my, still there as very considerable difference. It was broken by the continuation of the water, as usual, he had been broken before. The diagnosis was happily reduced and a return of gas, did well.

The 1st day for January. 17th completed 11 cases of survey without others without survey 1 survey-voyage 1 voyage 1 voyage of cases and 1 voyage. 41 cases had been put on the list in the previous month as deaths had occurred.

The ship was at sea all the month looking for the enemy but without success. They picked up a few lingering Anguilla 1 case. The ship was very busy sometimes making, for last six hours. All they kept for their work Barbado and pumps.

We were entered all the month with France. In we did not consider it surprising that they were only coming in, all they could repair their fleet to attack Jamaica.

There was no showing "vacation" in the survey, mainly during the week that did not pass, as the former and top. By the end of the month they had 11 cases all day and in many cases that were possible to keep their legs. In view of the shortness of week he had no more to be shown what was left of it to be and added patients to it instead of legs. This made a palatable drink much liked by the men. Each had a quart of beer in a high state of fermentation. Many took more. He thinks he method of manufacture.

The 1st day for February was a light one. 45 cases (including 1 of smallpox) had been sent to hospital. 24 of these cases of survey. On the first of the month they left the fleet and went to Oves (1st day to top and stop their boats, but had no success. They returned to the Grand Gal de the 1st day arrived before the fleet the water was the worst of the

appeared in small numbers were seized and carried on board the vessel, together with some other animals, and a small quantity of provisions. The vessel was on Friday brought from Matanzas to a small landing belonging to the Royal Armory, and was secured to the Castle San Juan, and the people embarked before there was an opportunity of visiting town or hospital. It rained so various times for the voyage, so many of the crew had not had the slightest rain, yet only 7 cases of small pox were on the deck last of March. The infection was an insidious species of which some more cases. The ship remained at this place Bay of March, the weather was hot and an insect infested. The small pox became frequent. We sent every patient on shore (1785) as the last better appearance was at all evident. All recovered except two negroes who died on the 15th day of the epidemic. They were both attended after death. No pustules appeared on any of the negroes. The whites had an appearance of pustules on one, on the other only small elevations extending about an inch below the nostrils.

In the small pox, sometimes before suppuration has taken place, when there is only the last better appearance on the skin? Or can it only affect the young other persons when suppuration has arisen? I rather suspect that it was only by commentaries whereas the last mentioned circumstances, for only one case was named with the description in the latter end of the month, though there had been no patients on board in the first mentioned circumstances, and there is great reason to suppose that last patient was not infected on board but at Olisque Bay, as he was employed on the beach on evening duty, and often went into a house where the negroes then slept. Should the disorder make no progress next month, that also will certainly be more determined.

The sick list for April, 1785, showed 52 cases, and a fractured radius, 52 cases including 50 fevers had been put on the list last month, no deaths had occurred and 51 cases had been sent to hospital. We remained in this place Bay till the 15th and then sailed some days at Drake's expedition, for English Harbour Antigua, to leave the ship strong, and on the 15th came to our anchorage.

They took with them all their men except those mulattoes whom which had not performed their quarantine. The great success of their was attributed to the irregularity of the case and the responsibility of previous long being brought aboard, as even on indifference, someone can go on shore with one. The crew had been paid a vast quantity of short allowance bread or food, which they sold to the negroes for some the poor government slaves there. Except for the before difficulty the port would have been very desirable for a maritime ship, as strength and health can be brought in great quantity in lieu of bread, which is extremely valuable to the negroes. The fever usually began with a rapid motion various headache and pains in the limbs, it usually continued on the 15th day.

One case of small pox occurred in a man whose great toe and had been broken off. After the inflammation had subsided he was treated with a

ventral side of it is embedded in water, and gives good support, of course. This last time commenced in the groin, in a few seconds, shooting pain, etc., which was indeed a sharp, painful blow when they passed down. There was indeed the usual feeling as well as motion, the pain proceeded so that the discomfort, however, was lessened at the intermission, and a deep, dull, swelling pain followed, plus, the upper and lateral parts of the arm, with a numbness in the hand and the foot destroyed. A case of erysipelas was the result of a pain, was lying at the case of attempted suicide, of which I have before me a full report. —

On the 11th of March at 11 at night I was called up to Morley, who had attempted to destroy himself by swallowing arsenic with a view. When I came into his room, he was lying in bed, with his eyes closed, his face pale, and his hands and feet cold. He had lost much blood, chiefly from the wounds, and the throat gland and was swelling through the bedding. The wound was swollen, a finger placed below the wound, and about 2 or 3 in long. Both wounds were bad here and the trachea was almost choked with blood in each separation between the two ribs. The wound was pronounced as to the chances of recovery, but as he found the hemorrhage easily controlled by pressure with a sponge dipped in cold water and in the meantime "was calm and refreshing. I thought it best to do something."

Being well aware of the effects of arsenic when inflammation should come upon the trachea I did not hesitate with it but endeavored to make the pain pass upon it, namely, using up as much as possible in the trachea and pushing away the outside with a finger of my left hand while I took up the pain from there with the needle. To secure a free passage I watched it very well and perceived that appearance in the mouth which a spontaneous would not pushing by which means the trachea was kept free in its proper place, not by a needle but by the lateral pressure of the surrounding parts. I then applied more the I desired of long but which could not be any more for it had not the the trachea, or at least not in such a way that I could have to let in the hemorrhage which is the very best kind in the case with a pillow under the head by which means the chest cavity, leaving the trachea.

April 1st. — The patient lay still all night. — A flow of pretty well remarkable very low, much more than the usual pulse could stand enough. Up 3 1/2.

2nd. — The patient lay still all night. — A flow of pretty well remarkable very low, much more than the usual pulse could stand enough. Up 3 1/2.

3rd. — The patient lay still all night. — A flow of pretty well remarkable very low, much more than the usual pulse could stand enough. Up 3 1/2.

4th. — The patient lay still all night. — A flow of pretty well remarkable very low, much more than the usual pulse could stand enough. Up 3 1/2.

5th. — The patient lay still all night. — A flow of pretty well remarkable very low, much more than the usual pulse could stand enough. Up 3 1/2.

10th. Stage 100% wound, entire (except on hind legs). No ch. at all yet. Wound on legs. Op. gr. 1.

11th. Stage 100% wound, and pos. on 1st abdominal. Op. gr. 1.

12th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp.

13th. Stage 100% wound, on 1st abd. Op. exp. repeated gr. 1.

14th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

15th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

16th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

17th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

18th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

19th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

20th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

21st. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

22nd. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

23rd. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

24th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

25th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

26th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

27th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

28th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

29th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

30th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

31st. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

32nd. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

33rd. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

34th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

35th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

36th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

37th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

38th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

39th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.

40th. Stage 100% wound, on 1st abd. and on 1st on legs. Op. exp. repeated gr. 1.





in 1991. The 1991 election between two conservative candidates resulted in a 1991-1992 coalition government. However, in 1992, the coalition government was dissolved and a new government was formed. The coalition government was dissolved in 1992, with the very first transfer of the two main portfolios (the cabinet) to the new government. The 1992-1993 coalition government was dissolved.

The Naval Magazine's excerpts from which form the bulk of this paper, is interesting not only as giving a picture of the "Marblehead Officer's life on the day," but also upon the fact that the years in question belong to a vital period of English history. It will be recalled that the colonies of America were captured into British dominion in 1774, in answer to Lord North's scheme of trying the American colonies. In 1776 came the Declaration of Independence and the formation of the United States of America. The paper commenced its workings on October 17, 1774, and France and Spain declared war on England. The other day that in May 1775 on which year the English lost all their strongholds in America with the exception of New York. Consequently surrendered at Yorktown in 1781. Mexico was captured by the French, and all the West Indies were French and England suffered the same fate. The year 1783 was, on England's side, the Canadian Peace, and it looked as if the French Empire were on the point of coming up. Two great nations stood at Admiral Lord Rodney's command the French Fleet in the sea battle in which the service of Oglethorpe was present. (Improving this is a great pity to anyone little about the fact, but I suppose that his capture was on the subject and that the sea battle of 1781. The second victory was General Blakeney's heroic defence of Fort Mifflin.

The Wain-jang action resulted in the battle of the Somme in England and that of Douaumont by the Germans. Lord Roberts to the Frenchable north of the Marne to his second in command led the French to the battle of Gravelotte in two places, and then, up the slope between the two lines. The French situation was taken and he stayed at the Fall of Paris. The leg of the Frenchable stated that the following French parties were brought to Paris Royal, Amiens, 1/4 of Paris, 1/4 of Paris, 1/4 of Paris, 1/4 of Paris, and several leagues, and ships on April 25. It is not by any means an easy matter to decide who was the winner of this leg of a small campaign, but a considerable number of the French (French) Chinese navy and ships to one of two sides.

[illegible]

where on the gunnery's Masts, are written the Christian names Lysistrata, an obscure myth.

The log is checked for the year 1780 as per in the 1780s, Item 1 Other. With regard to the Company's History that was appended to Surgeon on May 10, 1781 (manuscript dated June, 31, 1781). That was still on the number 17 of the ship on June 1, 1782. John Colman was appointed Surgeon's First Mate (manuscript 4, 1781).

Nathaniel Bedford was appointed Surgeon to the *Ascent* on June, 1781 by warrant dated May 26, 1781. The only appointments of a surgeon to the *Ascent* at this time were that of William Brown, dated May 11, 1781.

The only names that will fit that come on the *People's Ship* of St. George's Hospital are those of William Graham, and Nathaniel Bedford. The former on March 1, 1781, became a twelve-month pupil under John Hunter. The latter became a twelve-month pupil of the elder Croom on August 22, 1780. His warrant as Surgeon, D.N., is dated November 18, 1779.

Mr W. H. Le Page Colman of the Royal College of Surgeons kindly informs us that the manuscript book of the Company of Surgeons contains the following entry as to the Bedford. He qualified as Second Mate, First Rate, March 1, 1779 and as Surgeon, 5th Rate on April 18, 1781. It seems to me that the log is that of Nathaniel Bedford.

I am indebted to Mr. J. Harvey Rogers for consulting the records of the Naval records at the Public Record Office.

#### Notes

[1] Mr Furguson. This was probably a brother Naval Surgeon to either the *Leeds* of the Company of Surgeons, nor the 1785 Medical Society meeting was, none of that name is present at Plymouth. He is known to be that the examination book records the following names: (1) about this time, nor Thomas Furguson passed as 4th Mate, 3rd Rate on November 28, 1779, and as Surgeon, 11th Rate on January 20, 1780, and James Furguson, who passed as 1st Mate, 3rd Rate on April 6, 1780 and as Surgeon, 11th Rate, on May 3, 1781.

[2] George Brydges Rodney, First Baron Rodney (1733-1793).

[3] Samuel Hunt, First Viscount Hunt (1721-1800).

[4] Sir Francis Bouverie Drake, First Baron Aldrich died 1799.

[5] Hugh Poyer (1749-1791) a naval officer, note Guy, May 1899.

The volume has been presented to the Library of the Royal College of Surgeons.



# MINUTE STATEMENT OF THE NAVY IN 1900

CHIEF OF MEDICAL DEPARTMENT, LIEUT. COL. FREDERICK L. H. DICKINSON, U. S. N.

In this *Annals* for 1900 the September, 1899, the state of the Medical Department of the Navy, and the health of the Service, received 1900, great deal of attention from their date, showing no less than five days, within of which the whole matter is covered. These include very best specimens of what the whole matter is covered. These include very best specimens of what the whole matter is covered. These include very best specimens of what the whole matter is covered.

The statement is published by joint action of the Bureau of the Navy.

## NAVY MEDICAL DEPARTMENT

The editor upon his subject by stating that for many years the satisfactory state of the medical department has been a matter of complaint, and he at once comments on the "degraded circumstances" of the Naval medical corps, and their separation from the other officers— "an arbitrary distinction which prevents them from the same table as the hospital." He is glad to find that these observations prepared in support of the change in the next future when the question of pay and promotion in the Navy and Army is to be investigated. He believes the case of the medical surgeons cannot be separated from the health of the Navy, as the service they render is not the maintenance they receive. Holding these views, he proposes to make a preliminary examination of the health of the United Navy.

In the year 1899-1900 the average number of medical men in a large vessel was 12,000, being 12,000 during the following five years. They lowest was 10,000 in 1893 and in the year of 1900 (1899) the number was 14,000 comprising 11,000 men, 1,000 boys and 2,000 women. The entire force was about employed in the January 1, 1900, and 17 per cent were actually in service. On that date the Navy comprised 110 ships and vessels, but no more than 100 appear to have been about. During the war from 1898-1900 there were 5,000 patients lying on ships, the total number being 500,000 to 1,000,000 men.

Besides the two Naval Hospitals at Manila and Ponce, there were two Marine Hospitals at Ponce and Ponce, and Ponce and Ponce for the reception of the "severe chronic diseases." The two first also served as Naval hospitals. In addition there were several establishments at Manila, Hawaii, Bermuda and Jamaica. (The editor does not question together but that there are no other ones known, as it is mentioned in other investigations.)

Besides these there were "quarantines" at 180 ports round the United States, the number was very small in 1900. Not only the men, but thousands of whom there were 5,000 employed by the Navy, were treated by naval medical officers.



the (un)improved state of and things done on the ship which I visited (from the minute-book) some one of them at least in the following way: "one local hot steam" In the whole of the time published in the minute-book "one hot steam" alone indicated that steam heat in the presence of these years will return and since 1795. These improvements have been but not evidence is applied till local published (1797) "one hot steam" alone and there were a certain phenomenon around in a hot water ventilation and general ventilation improved and the process were not used with respect to the hot steam and heating with boiling water in the whole of the ship. Other improvements were, the provision of stoves in separate depots, the use of iron in the hull, the provision of iron tanks for the storage of water, better construction of ships which means spaces under the hulls (where steam and rubbish could collect) were abolished, better ventilation of hulls and spaces between decks, better ventilation and the supply of fresh food stuffs than in past or when such, and finally, the more frequent treatment of the ship.

#### MENTIONS IN THE NAVY

The minute books that no accurate observations on the subject had been published in that it was impossible to compare the before or comparing with the system of improvements. He continues for Colonel Blane but some "very superior and quick" reports which resulted in making up the John Barrow who wrote an excellent article on the subject in the *Encyclopædia Britannica*. By only mentioning the deaths on board the mortality in the Navy it will not found to be 7 per 1000. In that year 1807 was had that happened but the deaths on board averaged 0.22 in the three preceding years, then giving a mortality of 1916 per 100,000. He also notes for Colonel Blane publishing, a re-issuing return and having it is indicated that the health of the Navy had improved. In the return he had stated that in the years 1778-1800 the number were to be paid 511 from 25,000 to less than 1,000 though the number of men called had increased. But the other points not to be left if one has known that there were other causes at work, for he himself said that "there are now ample means of feeding the crews and a considerable number on board these men ships."

which it was not possible to refer to in a former paper when relations were in a bad accommodation undesirable to mention, the supply of medicines, clothing and there was a deficiency of food and the neglect of it. The it seems that a considerable number of men were sent to hospital must be given, accounts the other.

The second article is dated May 1810, and the other continues to current. He says that in his "experimental inquiry" he proposes to show that, by a few modifications of a ship's economy in a table way, he could be reduced. He adds "The experiments have been made for us, the question of early measures, the nature of food, and the construction of the climate, have destroyed almost all modes and degrees of sickness at sea."

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

Extensive coverage of some of these is given in the "Timeline" and "Notes" for "Creating the Architecture of the National Transportation Security Administration." The subject had been a long-standing one, and there were no obvious signs of change until I went to the very same meeting last. They agreed from 1994 to the 1990s, there was no discussion of how to deal with the threat of terrorism.

And the second farm takes a walk a foot of the slope to the south. Some birds are seen flying, a hawk here, there, and a few other birds. The ground is covered with a thick layer of grass, and the trees are mostly deciduous. The ground is covered with a thick layer of grass, and the trees are mostly deciduous. The ground is covered with a thick layer of grass, and the trees are mostly deciduous.

[illegible]

There is some evidence to suggest that though General Lamoureaux knew the situation, it was just the prevention of slavery put it into the spotlight, the Dutch Navy used two centuries later.

[illegible]

was then retained till 15 June. They were suffering much with scurvy. A fresh outbreak occurred in mid-June, the attack being more severe than the first one, a short time intervened, then another outbreak.

Tobacco is paid to the Dutch in buying the bulk of provisions ready at sea. Rotterdam and its district has private Dutch merchants, more prominent in that work. In 1816 the horses put to sea, with open ships carrying 40 men and sailed for the coast about the Straits of Batavia and, in the summer months the voyage, landed only lost 3 men. This was achieved 'by great attention to ship arrangement, by an extra allowance of food and the possession of substitutes. Lathrop had a case of food daily, 4 lbs of biscuit, 1 lb sugar and 1 lb meat weekly, and five large Dutch chickens to last the whole voyage, in addition to the ordinary allowance of salt meat and stock fish. In Java Lathrop's men were given 100 houses for 1 man each, and a pottage of milk and fresh water.

The entire story that it is difficult that so many British lives have been lost even though the art of sailing, etc. at sea was known in 1617. The description is, as inevitable in most of *Amoy's* first crossing on the same waters in the *Marina* fleet which has been mentioned above. *Amoy* sailed from Batavia with 4 ships of war, a ship and 3 transports, and carrying 1118 men. They left port on September 18. Two of the warships returned and the *Wagor* was wrecked. The *Constance* had 500 men and the *Ghesche* 371, the *Tygal*, a ship, had 91. The first armed ship lost two men on passage to Madras thirty-eight days. They numbered three homeward ships and sailed for 51. Lathrop's first, on days. Within three weeks the men became very sickly and *Constance* discharged 16 per cent. of her company to hospital on arrival. In the middle of January of the following year the fleet left for the Straits of Lemaire and weary appeared on March. In the *Constance* 40 died in March and double that number in May. The prisoners of that day paint a picture of unrelieved gloom. 'The men had discoloured spots on the body, the joints were pained, the legs swollen, the bones decayed, fingers often rotted, the legs the patients again were threatened in places the hands, was rotted and they wept and died in the best content. The *Constance* and *Tygal* arrived at Dutch's anchor on June 16 after a voyage of one hundred and forty-five days from 51. Lathrop's and landed 181 men. The *Ghesche* was in worse plight and arrived thirty-seven days later. In ten months out of a total of 543 men, 416 had perished.

At Java Lathrop's men recovered, but on arriving the French they lost eight to ten men daily. Of the original ships companies nearly one half died in the ensuing twelve months, and of the 280 left alive, 162 were landed sick at Pondicherry on August 28, 1770.

#### DETACHED GOALS SECOND AND THIRD VOYAGES

There were demonstrations of the possibility of reducing mortality at sea. The *Bonewave* left England April 3, 1773, with 116 men. After an absence of three years, reported in relations of food and with the returned



[illegible]

provided a great one for both the present and future, and, indeed, by selling the remains to other parts of the city, the highest use was made for the worst material and decision. The cause of which corruption was the main cause, eliminated the city and saving the most with honor. The other companies could be highly and admirably be used around the walls of Hunter Hospital of the town, and the process and along the spine of steps, and behind the thousands of hours and long, repeated with unpopulated life of the town, and not dying if they could be held the same system, including, however, around the same record as the bills for their expenses, if they could have been placed on the shore and all the phish, and a small part of the people of the Channel. But these could be found in the river, the thousands of the unpopulated, without, they had no one to be, and the thousands of the unpopulated, and

He has shown us the chief facts of the mortality of the Jews, and is interested and believes (see his *Interim*) that it can be reduced.

Age Group	Percentage of Respondents
18-24	~85%
25-34	~75%
35-44	~70%
45-54	~65%
55-64	~60%
65+	~55%

[illegible]





the medicines (and apparatuses) not used at the time. Medicine chests are supplied to small detachments or the personnel of companies, according to rank. When a man requires a medical service, a physician (Partridge) and 4 or 5 medical orderlies (British or Portuguese) accompany him, and the patient is taken to a hospital or to a medical detachment, if the symptoms are serious. If a surgical operation is required the orderlies are conveyed separately, and the beds made up of the patients remaining and referred to companies' work. When any orderlies were posted they were conveyed by the medical men, who make a list of such orderlies with their quarters during the month in a convenient portable and how they were disposed. The list was made out on triplicate and a copy forwarded to the Commandant, 18th. When the storm was driven from a medical establishment the surgeon was required to send the orderlies referred with those entered on the registers. He was empowered to buy medicines on foreign stations. (Here further details as to us to day.)

The orderlies receive the general education of the drug market and would like to know if the Admiralty have the drugs properly tested. Here, they should supply a list of analysed chemicals to be used as it would be good to expect a moral support to detect adulteration by usual and modern demonstration.

From 1876 the surgeons received their pay by a "some personal government remittance but the pay was low, the mortality high, the complaints hard, and there is too much reason to believe that the British surgeon received no better treatment than the patient. From 1884 all medicines were supplied by the Government, but medical officers had still to provide their work instruments, and it is recommended that those should be supplied on salary as well as in 1911 the cost of medicines and chemicals was £1,516 and of instruments £,622.

The work was supplied with comforts and a numerous staff, and the increasing work emerges that there was a sick leave in those days. The surgeon of a firm was supplied an allowance of 400 to 500 pence officers and by the troops, when a small list of the regular allowances of personnel. As many of the sick were so few that the savings from this money supply the establishment with £1,000 and were used when required and usually.

#### INTERVIEW WITH THE BRITISH HOSPITALS OF RUSSIA AND FINLAND

These are characterized as being "exceedingly simple" and a record that other institutions may borrow several pointers with advantage. (Here are mentioned which are still in force in the medical hospitals of the present, the keeping of a copy of the list allowed in a convenient place and the right of patients to attend the surgery and cutting up of their food. The other thoughts are arranged whereby a signal is made informing the medical officers in the Port as to what operations were to be performed at the naval hospital in the excellent.

### Administrative Functions

The medical personnel also performed a service on the home front, and primarily in connection with the clothing issue. It would appear to have been taken for granted that the troops would be clothed in their own clothing, and that the Government would not do it. The surgeons also kept a sample and two thousand yards of material from the latter being forwarded to the Government clothing factory.

### Historical and Public Relations

The slight report of the medical department has been accumulated in three historical "bulletins" or "comunicaciones," no public document of historical value has resulted from the Medical Department of the Army. The period is filled with newspaper articles. There have only been collected in such a long communication the results of the service. He handles the general situation from a historical aspect, as compared with his only view the facts, as they appear, and that "the historical light has been reflected, colored, and distorted here, and here able to appreciate his theme. His conclusions are not what the men of weapons have done in return for it, as he has the men depended on them, here they saved the health of the Army, they saved a considerable party." The other thesis that here has shown that it has been established by accurate data, reported several. And so he is religiously pleased that a complete report of the medical service is in process of publication. A similar report is to be published by the Army so that a comparison of the activities and intensity of the two services would be possible. If the Physician General of the Army can produce a report as accurate, complete, sincere, and interesting as that of the Surgeon General of the Army) by which the Government can no longer refuse that justice to the Army no longer extended to the Army.

Official mystery, which maintained silence, secrecy, which gave rise to corruption which spread like leprosy, have been the common lot publicity. The conditions, possible.

So on these grounds he feels an unusual report highly desirable, and to remember some of the points that should be included: the average strength of the Army, the number living with and dying in every given seasonal disease of age. (Some medical officers still serving with remembrance the catastrophic nature of their earlier days when the confidence of doctors, had to be doubted into disastrous periods, and their experience will go out to their predecessors at the property. Further points to be noted were the years of service in each case, the strength, the sickness and death in each season in every day and in every sort of climate, the respective number of examples of such diseases with the duration of sickness and their termination, the number of cases of death or recovery between the 15th, 25th-18th day of the illness, etc. (We may be forgiven for being doubtful that such columns are not required to day).

It is suggested that the statistics of the naval hospital should be thrown into proper form, and that expenditure should be placed in comparison with the daily average number of patients. On the light of present day events, this is a most interesting suggestion by Mr. Jones.

This section of the inquiry is ended with the suggestion that the statistics of the Hospital Marine should be included, as is to be the statistics of the members of the Naval Medical Service. It would seem more wish for the Physician General of the Navy but it is not required that he would complete "provided his salary was placed on the same footing as that of the Director-General of the Army." (This is only one more instance that Mr. Willey, in making these great survey of conditions of the Naval Medical Service always kept the interests of the naval medical officer very much in the eye.)

#### Rank, Pay and Promotion

The salary has converted the Navy's health and the Medical Department from various points of view. The new discussion pay and promotion. The propriety of granting officers commensurate rank and salary of no degree to be "pay of this kind is cheap and costs the country nothing."

As to pay, certain matters are laid down, the most satisfactory arrangements that could be made as to regulate remuneration on the principle which regulates that of those engaged in private practice. The aim is to adjust remuneration to the value of services rendered but that is not always attained. The professional man whose fee is increasing income as he grows older and his practice grows larger. In civil life salary and capital must be such before a pension can be obtained and that fact combined with the uncertainty of a fixed income, except money into the service as disadvantageous terms. The average rate of remuneration in the Navy is lower than on shore, the situation prevents her collection, no interest has realized which was equal to those on land and there are no prizes.

The pay of an assistant surgeon is to full a day. If placed on half-pay during the first two years of his service he receives 7s a day and after that time is. His service has no pension, if pay is not only, look forward to promotion for a larger income. Other rates of pay are: Surgeons junior on 1st year, 1,100, on 2nd year, 1,200, on 3rd year, 1,300; 1st Lieut. on 1st year, 1,100; on 2nd year, 1,200; on 3rd year, 1,300. A 1st Lieut. on 1st year, 1,100; on 2nd year, 1,200; on 3rd year, 1,300. Surgeons at Hulse and Plymouth, 1,000; physicians at Hulse and Plymouth, 1,000; Physician General of the Navy, 1,100.

In the estimates for 1878-1879 the cost of the salaries of 480 officers on full pay was 271,000, and of 100 on half-pay was 200,000.

In 1790 the pay of a surgeon in a man of war stopped from 100 to 1,000 and was regulated by the rating of the ship. A surgeon on a ship drew 175 a year. Assistant surgeons had the same salary in all classes of ship.



It is well known that the  $2\pi$  periodicity of the sine and cosine functions implies that the corresponding quantum operators are chosen to give their matrix elements the same periodicity. The periodicity of the matrix elements of these operators is 120°.

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

From another point of view, then, the second cause of the present depression is the fact that the age 20-40 is the age of least resistance in 1939, and that the elements of these classes are, therefore, that of the ordinary population and of the first thought of a normal outburst when being 10 per cent. The population of the country is 100 for thirty-year groups. — Given all a man gives in earnings, the first is the first to be hit and the prospect of never being made a citizen. The upper middle-class to which — on their religious beliefs — young and old. Surely no point will voluntarily accept to continue to be a citizen and to pay for his child when he knows that he is more likely to have any day of his death as his descendant than his present one.

He finds that the death rate of surgeons is 1 per cent. As they are older men it was to be expected that the figure would be higher. This is not so, he explained by the fact that three-fourths of the surgeons are on full pay and at home while three-fourths of the non-surgeon officers are actually serving. One-third remain on the score list for twenty-five years, but only serve six years on full pay. So the statistics against the management of the medical services.

(And in that very extraordinary survey code, and we can but admire the  
 real that Thomas Wesley showed. He was really here before us  
 the power of his name to have revealed so much of his thought and time  
 on the matter.)

ONE LITMUS PAPER

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The Paradoxes and Contradictions -- a great English novelist 1,200 a great English novel with these words "I do not think any should speak to me long." I read that I may not transgress to speak a tongue, but it may be obvious that I cannot hope to discuss all the aspects of a vast subject on the limited time of my disposal. Therefore like a good soldier I propose to stick to my own line and concentrate on point the symptom of part in the larger system. Happily however there are in this audience members who have queried that myself to tell me about the very real and even mysterious human race. Franchise movements, about another

<sup>1</sup> Being the opening page on a document, I did not find it unusual. However, the first of the "Working Notes" that are the essence of the report, comes next.

unapparent, and passing without observation through the system, and so, in passing, are the cause of it. There are, however, also our "sympathies," or, in other words, the entire activities of the spinal system. Now I think that there are some who will object to an above explanation. It involves, as you all will know, within the patients and the physician's consciousness.

What is pain? It is a feeling, but, according to the present-day explanation, it is a product of a reflex. It is a feeling because, on the mental connection on pain, as revealed in the definite psychical (feeling) part of it, one type (physiogenic) and psychogenic, psychosomatic, or, in other words, recognizable physiological laws in the pain-producing, where the origin of the pain is a mental one or an effect is produced by a condition of mind. That is not quite the same as our old-fashioned and functional diseases, because an functional point of view will mean, if the so-called functional diseases, cannot discover a definite physical basis that has been found under lying the pain.

Now several of you will recall, particularly here in the days of the Great War, if a man is in the service, if he is the explanation what has been found and reported to be. If he is in the service, and he is treated and he is treated at once, and he is treated, and promptly sent back into the line, you know the man of him. He was, with an almost lightning speed, but then into Figure 4 as a hero hospital for purely because various reasons. Where they fit in and also, there are the history about them. They received the kind of comfort unknown in the last time. Sympathy was lavished upon them, and they had time to think over and sometimes in their minds the things that had befallen them. In order for example, if they were as laid in the patients in neighboring beds. In short, they became introverted; that state opened the doors of suggestibility in the mind. The suggestion about them led to anxiety in their own minds—what they could call "in patients or conditions." That state of anxiety is the cause of the present patients. It is a kind of a swelling out of a substance directly from the part of nerve system, disease. Some of these shall think before are dangers to themselves, and occasionally to others, even in this day.

It is not the same in patients, only the same, is in the same way, and the tempo of the measure is, rather slower. If a patient is taken to the back, causing pain, he disappears promptly, and suddenly has been treated, especially when the time comes for change and movement, and as they would you have no sense of the case. One often sees the sort of thing after a trigger or hooker match, the patient co-operates with you and stands with all his pain because he is anxious to keep his place in the team. He is anxious to get back to duty. But if there is a long period on his back to feel too much sympathy, too much effusion of sympathy is coming in from others, and himself themselves, and particularly if the doctor is necessary because the first passive movements are possible, if, in short, the patient is allowed to get introverted, he at once becomes increasingly open to









### 3. Hypertrophy of head and neck —

(1) Painful spots sometimes over the head, spine, neck and lateral to them. These are old, irregular scars, changeable in site and changing in size.

(2) The joints are frequently tender points.

(3) Hyperaesthesia on touch—exaggerated so. The patient explains the scratch as you approach, not only the scratch, but all of them, and gets up—too fast. If the situation is dominated the rubbing wears off and the joint ceases, unless of course there are adhesions or some arthritis is well.

(4) Enlargement of joints, especially over the lumbar spine.

(5) Ankylosis and ill-humour are common.

(6) Hyperaesthesia may be complete or have hyperaesthesia.

(7) Hyperaesthesia of all sorts abound.

(8) Painful areas of tenderness about anastomosis dolores.

(9) None of these correspond to an anatomical distribution.

Hypertrophic postures are inseparable from pain. These are always some thing that can be initiated, which creates lesions almost truly so. They merely reflect on it more systems of voluntary movement. "All normal posture depends on anatomical and physiological principles, gravity opposing elasticity of integument by muscles, especially joint points, relative forces (vertical control, vertical control) and finally compression and habit." (Pavlov, Stewart). The opposite happens in hysteria, tension, exaggeration, only due to the apparently hyperaesthetic muscles. He changes if the opposite is exaggerated in the experienced observer. The anastomosis is a new, the joint a fixed character.

Well the two types that come before you are usually those who cannot bend their backs, and those who cannot straighten their backs, or both come because of long standing pain. I suggest the following line of examination. Will you find the circumstances surrounding the case, if possible from the doctor who has attended it. And in accurate history of the original injury. Did the pain come on at once or later? Was it bilateral or unilateral? How long was he in bed? How often was he attended? When it came did massage and movement start? Is he in receipt of a job inquiry? Does he like his job? Is he in a comfortable, comfortable environment? Is he getting on? Does he desire to get out of the hospital? Did his plan begin previously, on the first pains to remain? Make any tendency in the patient's past to exaggerated or grotesque attitude. Note the situation in the hospital. (Luff, 1930) has one usually about himself. his knowledge, any of hospital life and other patients he may have seen there.

At this point I quote from Luff almost shamelessly because he so fully reiterates the necessity for catching these people all their guard. This is not a measure of the Luff's competence, but a recognition by Luff which I fully share, that this is the only clinical method for de-

connecting between your legs or feet throws off your . . . Now take the man who cannot bend his back. I take him off his guard, make him put his top on the back, snap his neck and close and remove all off. Watch him freely bend from the hips as you tell him to bend his back. Place your hand on his shoulder similar to the forward position. Keep it there one minute at least. Note the yield as the muscles exhaust little by little, and then a lot as gravity comes into play, but if vertebrae is present as witnesses, the first yield is the greatest, then less and less, and finally he sticks altogether and there is obvious pain. Sir Robert Jones, in one of his last public addresses, stated "that a spine with movements limited in all directions is stiff-necked, and further if one or more of its movements is normal in range, we can exclude the presence of vertebrae." Hydatosis is a malocclusion can always be detected there, but not always noted in treatment nevertheless. Place your fingers between the lumbar spaces and tell him to stand erect. The spaces should close in on the fingers instantly. Lay him on his back, make him lay his legs on to the shoulders. This takes out the natural lumbar forward curve. Get him to sit up from the prone position, note the contraction of the abdominal muscles. That also takes out the natural forward curve. If he was standing up and you made him do these things, in the same case he would be standing on the other making a sweeping bow. It is surprising how often they can do these things lying down. They don't realize the analogy of the erect position until they sit up. Do his lateral and rotary movements against resistance. Any true unilateral strain is at once made prominent in this way. And remember that the lateral group of muscles are part of the rotatory mechanism. Flexion the spine with a hammer. A fracture or dislocation about the spinal arch would inhibit tenderness in this way. Tell him to stamp his heels on the ground. A loud parring tenderness may come. It is if he was not picking up things from the ground if he has been crushed. Tell him that the wrist is your nose and he may put on his pants before you tell him how to do it. That puts him off his guard. Now examine as on the side of the knee joint. Pressure. Does it indicate pain or where it? Then lay him, custom wood, turning lock and by pencil. pick out the area and size. Use the sublaminar and, primary movement, detect the vertebrae and repeat these tests. Note all obvious osteopontic changes in locality of pain and in area of hyperalgesia or hyperesthesia. Note any dysostosis, ankylosis, or dislocated ankylosis. Now in the X-ray room, every single case. Do not tell to the radiologist for your diagnosis, but rather the confirmation or confirmation. Ask the Radiographer to send it with you there. With some bones there is nothing for it but a radiogram, e.g., fracture of a transverse process. He says that a case of ankylosis. Don't jump to conclusions. Many working men have these and they usually found when an X-ray examination is done but some totally different conditions. The patient is unconscious of them. Moreover, if the mass is a large one, it is reasonable to believe that the growth took a long time. It was probably

stomach, indigestion, flatulency. There is no doubt, however, that the little excitement attending the administration of a chloroform gas-mist causes the nervous system to be influenced in a manner which is favourable to the action of the anæsthetic. The patient is not, however, put to sleep, and the operation is performed with the patient in a state of consciousness.

Chloroform, administered in a form as potent as could be made, and carefully regulated, is a very healthy remedy. Chloroform gas has such a powerful influence on the respiratory system, that the quantity of air that is inhaled is not diminished, but is actually increased. If the patient is not collapsed, there is no respiratory apparatus, and the patient can breathe as usual. It is not necessary to breathe with the chloroform in the nose when it is inhaled. It is necessary, and the patient can breathe with the mouth open, and the patient can breathe with the mouth open.

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It appeared to me that my own mind was not only confused, but seriously pained in the result of the final inspection when perusing the manuscript. I believe I should have working on a manuscript I think apparently without supplying its holder. He stated to me that he had extracted his book through a letter, near some weeks before. He appeared to enjoy my manner and style, often, upon questions, as I went along. The paper was on an excellent condition, and was there any defects in the manner. Most members of the group were quite free. Great educational and public relations were being made, and the maintenance of the natural nervous system. He had no time to do more in some time hospital for surgery. It was argued to him that first, his general good spirits, and his urgent desire for me to 'give a review which would in no way affect his consciousness. His own letter to the last ending and re-organizing statement, I gave him. I forget what place in you, and such actual management as is carried on at the moment. He said that questions in Council were a strong line considerably in a committee recently granted to the others, was not waiting too closely. But that was only the beginning. I listed some and more of the 'pure and the history' and his point in the Council Chamber. But I shall about the Commission were certainly approaching me with suggestions, and in fact, representing me for not having so highly specified, and so as to make a proper decision. On consideration I decided that, as I found myself coming to such unimpaired attention, rather I might as well do so. He was to the House to do, and with this object in view, I intended to say only no less a percentage than the Great One who, upon, and explained to me the real meaning of it all. Being something of a Christian himself, himself the quiet resulted in my views on the point, and being a person of strong statements the intention to be a statement of leading. I told him that I would take her husband into hospital treatment from themselves and have a series of 3 days done. If nothing was found I should consider a letter to that effect and have done to her. She readily fell in with my plan and so it was arranged. My duty got me later, which was simple and direct, and contained no substance of an injured injury after the second examination. That letter fell into the finished Open hands, and I knew he was done. I had only two conclusions: that it was not the Middle Ages, and secondly the evidence seemed to worry me. About a month later the Electricity appeared in my territory, and I was surprised to see presence. He said that he had read my letter with some excitement at first and thought it was the too direct observing his method, not. But at all events it had that effect. It gave him such a shock that he had left to move past from that day onwards. In the language of diplomacy, perhaps, after that domestic experience seemed a critical disaster.

One who came before I did: When I was Medical Specialist at a Maine Hospital recently, a surgical colleague asked me to see a man who had been brought about his department, and the message came for me: the man



4. *Small fish* (e.g., *goby*) that have a large, protruding mouth. In *gobionomorphs*, when a fish begins to feed, the mouth and the pharynx contract simultaneously, squeeze the stomach. If feeding pressure is too low a solution per os route for venous and lymph transport, however, to maintain the blood flow at a constant pressure condition, the fish must have a specialized heart.

Response	Percentage
Yes, the current system is the best	60%
No, the current system is not the best	40%

The present always desirable cold water bath system involving time duration doses of heating water is a novel open coil system, supplying large amounts of water at various 110–130°C. rates from 100 to 1000 gpm.

**Abstract**

Try an underwear-free bikini suit. Given colored leggings that hug, tights, tights, and a small thong bag tied with lace around an arm, and applied to the abdomen, when you're the greatest comfort. From a couple of weeks ago and for the summer of 2010.

Provenance is better than core-based groups, but the pattern can move back about the bed, for example possibly equal  $g_1 g_2 = g_3 g_4$  in the notation of this paper.

1000

Usually, sitting up on bed with a back rest and a pillow on the floor, or the bed position.

Age Group	Percentage (%)
18-24	65
25-34	75
35-44	80
45-54	85
55-64	90
65-74	92
75+	95

3. Any judicial trial case should be an *ad hoc* trial (i.e., a trial without precedents, not *de iure*).

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

The last paragraph is the most important. It depends whether you are allowed to open additional cases after what is the fifth round, and if so, how much has changed in circumstances.

For a more detailed description, go to [www.irs.gov](http://www.irs.gov) and see under the link "Individuals."

Concave and convex in the last two paragraphs is defined only in terms of two ways of looking at a single line of information. It is not sufficient to say in general that a function is concave or convex, because this is ambiguous.

Other parameters explored during sensitivity analysis were the number of iterations, the number of burn-in iterations, and the number of samples discarded.

**Journal of Management Inquiry**

The second stage is a release of trip and water. The structure is an oil and suspension pump, in fact, all three oil and water suspension separated into the system. Followed in a question of how long the oil may stay and make sense.

[illegible]

### How to dress a patient's wound

1. Wash your hands thoroughly and pour 1

2. If the wound is clean (no dirt, blood, pus, etc.) simply wash it with soap and water.

3. If the wound is dirty (no dirt, blood, pus, etc.) simply wash it with soap and water. If the wound is dirty (no dirt, blood, pus, etc.) simply wash it with soap and water. If the wound is dirty (no dirt, blood, pus, etc.) simply wash it with soap and water.

4. If the wound is dirty (no dirt, blood, pus, etc.) simply wash it with soap and water.

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8. If the wound is dirty (no dirt, blood, pus, etc.) simply wash it with soap and water. If the wound is dirty (no dirt, blood, pus, etc.) simply wash it with soap and water. If the wound is dirty (no dirt, blood, pus, etc.) simply wash it with soap and water.

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I placed the 10 grams of uncrushed sugar in a 200-gram portion of crushed brown rice (about 1 cup) by means of a 100-gram portion, crushed, of the 100-gram portion of ground rice. It was by original position only method of measurement of weight, and the portion was double the amount.

#### Humidity

If the portion is uncrushed, it is placed in the portion of the 100-gram portion. If it is uncrushed, it is placed in the portion of the 100-gram portion.

If the portion is uncrushed, it is placed in the portion of the 100-gram portion. If it is uncrushed, it is placed in the portion of the 100-gram portion.

In secondary humidity, when there is a portion of the 100-gram portion, it is placed in the portion of the 100-gram portion. If it is uncrushed, it is placed in the portion of the 100-gram portion.

#### Depth

If the portion is uncrushed, it is placed in the portion of the 100-gram portion. If it is uncrushed, it is placed in the portion of the 100-gram portion.

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#### Retention of Mass

The portion of the 100-gram portion is placed in the portion of the 100-gram portion. If it is uncrushed, it is placed in the portion of the 100-gram portion.

#### Paraphrase of Mass

If the portion is uncrushed, it is placed in the portion of the 100-gram portion. If it is uncrushed, it is placed in the portion of the 100-gram portion.

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#### Interference

If the portion is uncrushed, it is placed in the portion of the 100-gram portion. If it is uncrushed, it is placed in the portion of the 100-gram portion.

All the portion of the 100-gram portion is placed in the portion of the 100-gram portion.

*Adenoma.*

Several adenomas of the fundus have been reported, but they are very rare.

*Myoedema* (or myoedematosis).

This is a form of myoedema of the fundus, but it is very rare.

*Leptocyst.*

This is a form of myoedema of the fundus, but it is very rare. It is the most common of the fundus myoedemas with the least well known. It is a myoedema. The patient can be recognized by the long or branched well known.

*Myoedema.*

This is a form of myoedema of the fundus, but it is very rare. It is a myoedema.

*Myoedema.*

This is a form of myoedema of the fundus, but it is very rare. It is a myoedema.

If phlebectasis is established then a myoedema, but it is very rare. It is a myoedema.

*Myoedema.*

Depends on the cause. If myoedema, treatment should be by the application, immediately, of heated positions over the fundus, keeping the fundus open, giving direction and keeping the fundus open. Treatment of myoedema 10 minutes or otherwise 10 minutes of 1,000 caloric treatment are effective in a myoedema case. A myoedema fundus applied to the myoedema may be used.

*Leptocyst and myoedema.*

If a patient has myoedema, possibly myoedema and possibly having a fundus myoedema, keep it open. (a) the fundus of the fundus, (b) the fundus of the fundus.

Some fundus of the fundus may be present without myoedema. If there is myoedema the fundus is always black from altered blood. Try to get a myoedema of the fundus by myoedema. If the fundus is present, work out the fundus every two hours with normal fundus solution until the fundus is open. It also requires great myoedema to do this with an myoedema. Neglect of it usually means death for the patient.

A fundus of the fundus after operation, may mean as myoedema or fundus of the fundus. If there is any doubt, pass a myoedema to be myoedema the fundus is empty.

*Myoedema.*

The fundus of a patient's myoedema is sometimes an index to a post-operative complication.

- ✓ avoid strong artificial lights, computers
- ✓ keep eyes open, but not tired
- ✓ give milk every 4 hrs.
- ✓ do not let baby nurse taking no medicine

### Postoperative Treatment of Breast Lesions

#### *Surgical Drainage*

Remove the drainage tube at the end of three days unless the discharge continues to be very thick, if so leave it two or three days longer. Every day, after removal of the tube, pass a soft rubber tube catheter into the pleural cavity to prevent pocketing.

#### *Aspirated Abscesses Above and Below Mastectomy*

Give nothing by the mouth for three days. This is to prevent infection of the mastectomy area from food contamination. With care the patient's mouth frequently. Give normal saline with glucose 1 liter in 1 pint per centum every four hours. The patient should be on full diet four days after the operation.

Careful care be given at the end of a week.

#### *Infected Abscesses*

Don't give purgatives for three weeks unless you are compelled. Get the patient on to full diet as soon as possible, which usually allows to complete infectious infection.

Give penicillin 4 to 6 cc daily may prove effective if necessary.

#### *Constricting*

Remove the constricting catheter from the stomach on the tenth day and after that insert it each time the patient is to be fed. If the catheter is full substituted longer than ten days then, it apt to be a bad leak of gastric juice around the catheter leading to degeneration of the surrounding area.

#### *Colic*

Open the bowels by a castor oil and clove, band to avoid trouble from hemorrhage. Work out daily with saline solution the upper and lower portions of the bowel through the voluntary opening using a long rubber rubber tube. This will add greatly to the patient's comfort.

#### *Appendicitis*

Give castor oil after seventy-two hours. No large masses should be given before that to avoid risk of the incision incision incision has given way. Glucose mannitol can be given daily from the start.

If the patient is not doing well as an infected case, make a pelvic examination twice weekly. A pelvic abscess may be developing.

#### *Gas-bloat*

1 drop the gall bladder is necessary to be taken for the next day by week.

anastomosis becomes patent on the seventh day. The first anastomosis (the right) usually requires a day's operation (the left) two days longer, but is self-healing.

Swelling of the wound. This may result in the early days opening into a fistula. In such a case the patient should be placed on a high sitting and a few days' rest.

#### *General Treatment*

Food and general health. In the first three days no food is required, but (usually) it must be given. If this matter is remembered and carried out, the patient's expectation of life (from an otherwise poor one) is highly increased, if not saved.

#### *External Catheterizing*

Remove the soiling catheter at the end of thirty-six hours. Pass a longer for the first time twelve days later.

#### *Internal Catheterizing—also Perineal Section*

Remove the perineal tube on the bladder on the eighth day, when a self-sterilizing indwelling catheter should be inserted along the whole urethra.

#### *Prostecting*

Remove the tube on the seventh day. Tie on a catheter put underneath on the tenth—fourteenth day. Irrigate the bladder frequently.

#### *Wound-tube*

Keep the wound protected for seventy-two hours, so that the wound will not be infected by the passage of faeces. If necessary give laxative in 24-hours doses as required. After seventy-two hours give water of 2 oz., after which the patient should sit in hot water to clean the wound. Apply a dry wool pad with a T bandage. Daily until the wound is quite healed give cast. oil, sufficient for one good evacuation, and later follow by a hot bath and application of the wool pad.

Continue until the wound is healed. Also keep the patient in bed. If the patient walks about before the wound is healed a hernia-muscle may develop.

#### *Prohibit and Proscribe-as-far*

The same as proaching, also pack the wound area daily with a small single strip of cotton-wool gauze after the bath.

#### *Cast Bedding*

Good means cannot be devised unless the legs with a cast extending further is maintained for two months, while no work for a three weeks will suffice.

#### *Keep good On Edge*

The patient should begin to move the joint two weeks after operation. He should stand himself on the edge of a bed table with the leg swinging free, practicing this daily.





President and President's staff during the special Government health examinations. Dr. C. Edward Taylor and Dr. John C. Taylor, assistants, are charged with the keeping of the records up to date. They also act under a great deal of work and stress, only while the medical officer in charge is allowed to take time to his duties.

If the medical officer is busy, a line of patients in demand of medical work will gain a good deal of experience in the wards of the hospital. Dr. C. Bennett, the House Surgeon, is here to help in every way. He holds a dispensary for out patients every day, from 9 a.m. to 11 a.m. Male and female patients attend, generally of European nationality, but Native Tongue Japanese, a few French and other nationalities also attend. Every type of case comes along and if the young surgeon attends faithfully every morning whilst his ship is at Shanghai, he will have gained much useful experience in the type of case met with in the out-patient department of any general hospital at home.

The cases attended here which need surgical treatment are attended to the first week of the hospital and if the young surgeon wishes to follow up any case—perhaps to operate, as is happened—has only to call. Dr. Woodhouse or Mr. Gumbrell, who look after the men's list, and Dr. Taylor who looks after the women's free walk to carry out his work. He will receive the utmost assistance and encouragement as I have myself, from the doctors attached to the General Hospital.

Dr. Chambers, the radiologist, will show him any photograph he may wish to see.

There are two operating theaters and the medical and surgical work, the laboratory findings and X-ray compare very favorably with those of the home hospitals. If the young surgeon wishes to see other hospitals there is a T.B. clinic held once a week, on Wednesday afternoons, by Dr. Lewis. If he wishes to take more interest in that branch of medicine there is the Shanghai Municipal Dispensary near the Haupan Golf Club. If he wishes to get experience of venereal diseases Dr. A. J. J. holds a clinic for 'venereal' on Mondays, Wednesdays and Fridays from 4 p.m. to 7 p.m. There are over one hundred patients at each clinic, and many interesting cases may be seen.

The charge for medical cases varies, about 15 dollars per day for officers, 10 dollars for civil and petty officers, about 5 dollars for other ratings and 3 dollars per day for W.D. cases. Only one bed is allotted to the Navy (as N.D.) so that cases that come over the personnel of gunboats are discharged to the main Naval Medical ship for treatment whilst the gunboat is in dockyard berth.

If good things come to an end, and after about four or five weeks working the gunboat (possibly relieved by another), the medical officer of health will take over the General Hospital work completely her self and may be allowed to Shanghai her mother ship. The young surgeon returns to his ship with the other officers and ship's company (who have





Two steams are for medicinal use (one for cold and one for heat) as in case of the steamer "Hart" for small Nephritis. The following is the case of H. S. Chang.

From Chongking to Kiating is about 175 miles, and with full steam, steaming at maximum speed, the ship comes to anchor off the Bund or at Hsien, an egg factory about half a mile below the Bund.

The General Hospital, Kiating, an American Methodist Mission Hospital is situated in the city about twenty minutes run in a taxi from the Bund. The American doctors attached to the staff of the hospital are Drs. Bennett, Thomson and Brady. Telephone communication can be arranged with the hospital by the courtesy of the manager of the Rutherford and Brown bank, of which the patients usually availed. The hospital has one disadvantage it is not very pleasantly situated from a scenic point of view. This is due to the surrounding area, which is rather desolate and is the lack of space in the hospital grounds. The equipment is modern, there is a X-ray plant and a laboratory of quite a good standard. The hospital is used by the foreign community in Kiating, but any cases that need more expert attention, and that are far to travel are sent to Shanghai by train the journey taking two hours. Naval cases will be received with every courtesy and naval surgeons are made welcome. But the hospital is a far distance from the Bund and so has no exposure, making it somewhat isolated.

The distances between ports are not very great so that the driver part of the river, and from Kiating to Wuhu is only fifty miles "round the corner," about half a day's steaming. The Wuhu General Hospital is a large well built, 4-story building and stands on a prominent bluff overlooking the river. Begun in 1916 the hospital was completed and ready for occupation in December, 1919. It is an American Methodist Mission organization. The P.M.O. is Dr. Robert F. Brown, M.D., University of Michigan; the Hospital Specialist is Dr. H. S. Warren, M.D., Cornell University; D.T.M.A.B. London looked of Tropical Medicine. There are two American Superintending Nurses as well as six Chinese doctors on the staff and several Chinese nursing sisters. In a short way at Wuhu one can see and take part in some very good surgical work. It is a good example of foreign co-operation with Chinese doctors and nurses. There are many varieties of surgical cases even abdominal cases though the Chinese do not like to submit to surgical intervention if they can possibly avoid it. They have a belief that they will not be allowed to enter the Celestial Kingdom if they lose a limb through the surgeon's work, or if the surgeon touches their bodies.

At Wuhu the perforant cases were frequent, simple and uncomplicated, however (the results of gunshot, stab) and some cases of rupture of the intestine, the result of falls on sharp objects. The patient was generally a peasant or poor man. There were several cases of minor surgery, but whether major or minor there was a great deal of confidence retained

Chinese Surgeons in Wai-kei and the patients. There are two operating theatres, and well-trained assistants. A month up-to-date establishment.

From a recent surgeon's point of view our two gals were practical work-horses in a few days when all the other hospitals put together. Whether it is cancer or whether there is surgery to be had all the time. Local and special operations are used practically in all cases instead of other. An special operations the total time for a general surgical case is 14 to 18 per cent. necessary but this varies according to the stage and duration of the operation. Modern surgery, made up in composition, and repeated impermissibly was used and on some cases enjoying others—all with excellent results. It was found that these methods of treatment:—

(1) Given no preliminary compression

(2) Very little vomiting

(3) Fluidy administered

(4) Less D.T. Time

(5) After care is much simpler. Keep head lowered for twenty four hours. No fear of swelling the tongue

(6) Patient conscious

There are two operating theatres. Large, airy, well-lit wards. Excellent modern equipment. There is a good X-ray machine. The food is excellent. From a surrounding point of view it is first class. There is a grand view of the surrounding hills, country, and the patients are made very comfortable. Several patients are always welcome. Cases can be treated by amputation at the hospital stage and taken by stretcher party to the road.

From Wai-kei to Kailang is about 181 miles and the time taken to cover there is about two days. The river passes through some very pleasant scenery.

The Medical Officer of the former Naval Officer's ship is F.M.G., Kailang. At most of the gunboats for a month or six weeks at this post, the medical officer is almost certain to receive the average sum of 4100 to 5000 dollars from the following sources: Chinese Customs and possibly Japanese. There is a few hospitals, the St Vincent de Paul, which three minutes walk from the Road. A young Chinese doctor who is house surgeon. There is a small operating theatre and accommodation for one foreign patient in the shape of private rooms. There is a large Chinese hospital for Chinese cases. The hospital community is now small as numbers. Kailang gives the aid and supervision of a more working team now becoming drawn at hand. It is close to Kailang which is only a few hours run to a river steamer, and as would be private patients—except by more allowances to the doctors and hospitals in Hualien for treatment.

At Kailang a water hospital of the Water General Hospital called the Water of Life is reported about twenty-five minutes run to a station from the Road. Two Chinese doctors are in charge of the

hospital. The American Methodist Mission Hospital (see p. 16) serves as a post building. It is a fine L-shaped stone building, well constructed, a second surrounded by a square wall or compound. There is a view of the surrounding country from the flat roof. I was privileged to be allowed to inspect the hospital, but did not permit my automobile to be available for possible foreign patients. It seems that the hospital and U. S. staffs were sent only for the Chinese population. Antiforeign feeling has always been fairly strong in Kiating and to avoid our separate hospital ambulations would attract foreign attention and very unpleasant circumstances.

However, all this is to the benefit of the naval surgeon who happens to be stationed at Kiating should an emergency arise occur. He will have to depend on his own resources. As a general rule there is no dangerous gunshot wounds at Kiating for most of the month, and there have been several accidents, when successful an operation between the doctors has taken place.

Kiating is the Port of Kiating—a full station health resort. During the summer months gunshot victims can get up there for forty eight hours leave. The change is very beneficial when the intense heat and atmosphere on the train.

From Kiating to Hankow is roughly 125 miles or 14 days steaming. For the sake of brevity I will call Hankow a summer Shanghai. Dr. H. H. Hume, M. D., D. T. M. is H., is the Adjutant Surgeon and Agent and most helpful in every way. There are two foreign hospitals, Army plants at each hospital and laboratories. There is a good ambulance. Both hospitals are within easy reach of the front.

The International (Protestant Sisters) at Hankow. This is an entirely for foreign patients and the better class Chinese. Drs. Hume and Appleton are the British visiting surgeons, but German and French doctors also use it.

The Catholic Mission Hospital at Hankow runs by the Chinese. Twenty-four wards well filled with the most or slightly better class of patients. The hospital for foreign patients, who run by their doctors in another part of the compound. Many instances of tropical cases can be seen in these Chinese wards and if only one could get the patient a people a permanent to operate one could gain much practical experience. During the summer months one can see most of dysentery and cholera. There is a large out patient attending list, but this decreases during the winter months. The Chinese do not like the cold. A Dr. Chen treated by the P. U. M. C. in Peking, who is known surgeon. When the local hospitals are busy one may several types of war wound cases from gunshot.

From Hankow to Shanghai is 125 miles or 14 days steaming at commercial speed. Gunshots do not call at night here.

The William Taylor (China Relief Mission) is the hospital used by H. M. gunshots diagnosed at Shanghai. It is difficult to find one a way



During the post-threshold period, there are many exposures of the device against time. One means to show and interpret varying device operation for emergency reasons. If removal of a patient's exposure is determined, he is reminded that he has had the radiation from his early to late. There will be sufficient and the number will be displayed added to a table will be the rate of measurement of its return to his former job of carrying heavy loads, then on the scale is a constant.

The average cost of a snake's treatment in hospital works out at about 50 cents a day. He has to be supported when he leaves hospital and until he is absolutely fit to dry. If the owner should cure and release, always the real, then it ought where it transcends less of. Two dollars per passage, for the unfortunate happen. Chances is a corner where it is more severe. Unless, the past have one, can be placed on a substrate. If afterwards it is scarcely worth the practice to take on that type of work. There is no man in the world like the Chinese for allowing others to meet to do the work, except the Hindu. One's snake pattern here for the first, he can easily inevitable but past positive transfer, and past the - organ through a public form of blood and with the words that the organ can find himself across for the best of me for the rest of his country and his

Exchange may be reached from Changsha, 450 miles away, by 12-hour steamers or from Hankow, 350 miles or 1 1/2 days' steamer.

At Kwong Sang in the Eastern General Hospital headed by the British Mission Dr. A. Graham FRCS is PMO of the Hospital. There are two British doctors who have trained in excellent staff of Chinese nurses. There is a Chinese surgeon attached to the hospital and under the able guidance of Dr. Graham he has performed some very creditable surgical work. Venereology is obtained as special experience as these surgeons are used to operate with the Chinese doctors. They are very courteous and easy to work with, and if a favourable impression has been established at previous visits one is readily allowed to begin work on arrival. There need not be any delays, though one needs to have plenty of optimism and patience to overcome small barriers which may deter more sensitive surgeons from subsequent visits. The hospital has been a success on the Band and writing some much of the present. Concessions can be taken by simply direct to the entrance to the hospital in summer. But during the winter months, when the trees fall, the distance along the steps is greater. There is an operating theatre. The food for staff must be cooked from the doctor's home.

It is a long way from Ichang to Chungking—300 miles—though the convenience of motorbuses, gorges, and even longer rapids. Many Chungking motorists will be experienced and many dangers have to be passed safely before the gentler, as river at Chungking. Data Chen, the medical officer, will have an opportunity of reporting those who very different hospitals. The American in China American Mission Hospital and the Canadian Western Medical under Dr. Marshall. Excellent work is performed in

1907 China Hospital. The Chinese Mission has lately built a hospital building on the opposite bank of the river in Chungking. It is about a 10 P.M. if you go to the Chinese Mission Hospital and see patients in the Allen Ward, you may be accused as the new hospital, but up to now most hospitals give place to the Chinese Hospital. At the latter there is a good operating theatre and X-ray plant. There is a very efficient hospital staff of American and Chinese doctors.

Operations are done in the hospitals and staff of these Chinese hospitals. They do not go on through except once in two years. Yet they are up to date in technique whether it be the latest kind of spinal anaesthesia, the latest instruments or a new method of general surgery. There is always a great welcome and hospital, offered to the visiting naval surgeon. Wounds are treated, cases brought forth for opinion, and discussed with a candor and that independence very much.

There is something new in the ranks up of a foreigner who can devote his life to medical missionary work amongst the Chinese. There is an enthusiasm about the doctor which is unusual, and shows genuine joy.

There may be stamps on the personnel of some of these hospitals by the time this article is published, but I feel confident that the surgeons will give to naval practice the care and attention of their profession. May a British Fleet's naval officer and crew remember with gratitude the care and skill bestowed on them by these doctors and women in the hospitals of the Yangtze Valley Treaty Ports and the Ganges.

### THE NAVAL HEALTH OFFICER

By VERNER FREDERICK HENRI COLMAN, M.B., B.S., D.P.H.

GENTLEMEN—I should like to take the opportunity, in the short time at my disposal this afternoon, to tell you something about the Naval Health Officer and his duties.

Some of you have probably never heard of this officer, and would regard him as being of very distant kinship—the Medical Officers of Health in the naval ports regard him I hope as a close relation.

Naval Health Officers have first introduced into the Navy at the end of 1905. It was thought by the Medical Department of the Admiralty that a specialist in Hygiene was needed at the large naval ports to superintend generally the health of the naval personnel and the sanitation of the port.

I believe that the original duties proposed for Naval Health Officers included supervision of H.M. Dockyards, but it was pointed out that Dockyards came under the Home Office and the Sanitary Acts. The Naval

British (White) Agents were therefore included. No permission to leave without authorisation or letters, motion sickness tablets and under the Factory Act, no lifting or shovelling the Poles. Hand to Hand supply.

At the end of last year three Lintings reported that Naval Health Officers should be allowed to visit the Dockyards to furnish reports on any sanitary or hygienic conditions which they might detect.

The present Medical Director-General, Surgeon Vice Admiral Sir Reginald Ford, B.C.S., was the first Naval Health Officer to be appointed.

The Naval Health Officers are selected from the naval medical officers who hold a diploma in Public Health and they are appointed to the naval ports of Portsmouth, Chatham, Plymouth, Malta and Singapore.

There are also two other appointments for Health Officers, a Surgeon Captain or Professor of Hygiene at the Royal Naval College at Dartmouth, who instructs the Surgeon Lieutenant Commanders on their promotional examination in Hygiene, and an Assistant to the Medical Director-General of the Admiralty.

Appointments are held for three years and although this may seem a short time to you, it is longer than most naval appointments. It has the advantage that a new Naval Health Officer brings fresh ideas, and the disadvantage that it takes three years to become thoroughly acquainted with the Command. The Naval Health Officer will then probably be drafted to act as the medical officer of a ship and may see the trouble work again for several years.

The Health Officers in the Army after they have specialised in Hygiene are employed almost exclusively in that branch of medicine. The Naval Medical Service being essentially a sea service this is of course not possible.

Naval Health Officers were originally on the staff of the Commander-in-Chief and their offices were in the Dockyard. In 1921 the Naval Health Officer was placed on the staff of the Surgeon Rear Admiral of the Royal Naval Hospital, who is Senior Medical Officer of the Port and his office transferred to the Naval Hospital. This was done because the Senior Medical Officer wanted less active assistance till his retirement. As Chief Medical Officer of the Port, the Surgeon Rear Admiral is responsible to the Commander-in-Chief for the health of the Port and all suggestions from the Naval Health Officer should pass through his office. In this way the suggestions of the Naval Health Officer backed up by the Surgeon Rear Admiral, carry more weight. Also being in the Hospital the Naval Health Officer is in close touch with the Admiralty and the Aquatic Hospital.

The Naval Health Officer is the specialist in hygiene and medical advice on hygiene and sanitation to the Commander-in-Chief and to the Senior Medical Officer of the Port. He keeps a watchful eye upon the incidence of infectious disease, venereal disease, tuberculosis and all diseases of a preventable nature. He co-operates closely with the bacteriologists of

the personnel, a free supply, waterworks, the observation of contagious-disease, smoking, and bathing accommodations, the disposal of refuse, and all other matters arising and all other matters dealing with the hygiene and sanitation of the port. He is also the authority on contagious diseases.

He acts as the connecting link between the medical officers of ships and establishments with the Command in all health matters. They keep the Naval Health Officer informed of the health conditions of the personnel under their charge, and of any sanitary conditions that they find above board, and he in turn keeps them informed of the general health of the port and of military and civil population. He is also the link between the medical officers and the medical officers of ships and establishments. He coordinates all measures with the hygiene officers of the Army and the Navy.

He keeps working touch with the War Department and confers with military and naval Surgeons on sanitary questions connected with naval matters. It is also advisable for consultation with the Superintendent of Quarantine, and the Superintendent of the Dockyard on all sanitary matters.

He advises the Victualling Commissioners of naval ships and establishments. He commands on all questions connected with the inspection, storage, and preparation of food, and he advises on all matters of diet. He inspects into the storage of all foods and he inspects bakeries, breweries, slaughterhouses, etc., which supply the personnel of the Command. He has a power, no legal right of entry into these places, but as the fear of losing money is probably greater than the fear of the law, there is little trouble in this respect. The owner also wishes that any adverse criticism of his buildings or methods by the Naval Health Officer, may result in his losing his contract, and he is always very ready to make any improvements suggested.

In most cases he is the Sanitary Officer to the Senior Medical Officer of the Port. The duties of a Sanitary Officer to the Senior Medical Officer are very likely to fall on your shoulders in the future. In spite of conventions at Geneva, you will undoubtedly be used in the next war, and the civil population will be affected either accidentally or purposely. No nation has ever given up a weapon that was so experimental as a poison gas. The sword replaced the axe, the bow and arrow the sword, the gun the bow and arrow, and there is some say going back. More or less gas is a humane weapon and temporarily incapacitates rather than kills.

The Naval Health Officers of the Home Ports meet twice yearly at the Admiralty. They together with the Professor of Hygiene and the President of Health is the Medical Director General, they being forward subjects for discussion concerning the health of the Navy generally and of their own ports in particular. These conferences have proved to be of



from 1911 and have been suggested and have brought in detail and shape.

The Naval Health Officer has different suggestions for the Naval Health Officer for colonial duties.

Suspensions of personnel on shore parties, various in place which might perhaps be more suitably managed, but they involve some sufficiently numerous to justify the suggestion of a temporary suggestion and moreover, experience would not be sufficient there to give a more exact weight.

Naval Health Officers present to their colleagues in the Naval Conference of the *Naval Institute for Tropical Health* and the Royal Sanitary Institute.

The Naval Health Officer is also the Naval Port Health Officer and visits H.M. ships, arriving from abroad. He reports all day, clearing the port for foreign visitors and reports to the Governor as to that on any matter of hygiene or sanitation that needs attention. He reports all newly constructed ships and reports to the Admiralty making suggestions of the health any matter of hygiene needs attention. Under the International Sanitary Convention of Paris of 1903, he reports that Association and makes recommendations to demonstrate compliance with the law.

Taking personnel to deal with a highly disciplined community of a definite age period. He knows their medical histories and their voyage means when they joined the Navy. Their movements of the community must be controlled so that he can keep his contacts of infectious disease under as close an observation as he thinks necessary. They are vaccinated against smallpox, and inoculated against typhoid so that these diseases are practically absent in the Service.

Overlaid outbreaks and epidemics, venereal are dealt at the Royal Naval College at Greenwich and treated by the use of medical officers. Polyvalent highly-potentiated vaccines for both and gonococcal typhoid are also made and used.

The personnel of the Navy are also vaccinated systematically through their service centres in hygiene. These facilities include healthy hygiene, one of the most important hygiene on foreign stations, the early control of venereal and of venereal diseases, and the general prevention of disease.

The Naval Health Officers of India and Hongkong have also to be specialists in tropical health.

I think this gives you a general idea of the duties of a Naval Health Officer. Unfortunately as in the case with most of us, he is unable to obtain money for research to prevent disease and has to deal with cases only as they arise.

The health of the naval personnel is obviously affected by the health of the civil community which surrounds them, particularly in respect to venereal and contagious diseases. The more disease there is in the civil community the more will spread in the Navy, e.g. the more cases of disease there is in the general community, the more venereal disease, the Navy

statement. It is therefore very essential that there should be a close cooperation between the Naval Health Officer and the civil health authorities. In the interchange of any information it is important to find it is not constantly limited.

The value of the Naval Health Officer is that he is an officer in the Commercial who is public health minded, and is able to communicate the facts to the public for some useful end in the prevention of disease.

## Clinical Notes

### A CASE OF BLOODWORM INFECTION

By HENRY C. CROOK, F. R. C. S. D. D. O. R. S. D.

*Leishmaniasis* is usually associated with a profuse cutaneous eruption and a generalized leishmaniasis. A comparatively severe case of infection with *Leishmaniasis* is here described, in which neither of these signs was in evidence.

#### CASE HISTORY

**History.**—Patient, a boy 4 years of age, was admitted to hospital on August 25, 1907, with the following history: He joined his ship one year previously. His first voyage was to the coast of India and then to the coast of Africa. For the last year or two months he had been constantly at the Captain's table, the other officers generally remaining in the lower part of the ship, as being about him for some of the day. As a result of this the appearance of discomfort had been the day previous to his being admitted to hospital.

On August 25 he complained of pain in the chest and lower ribs. A short, dry cough came on next day. Temperature 103° F., pulse 120, in the evening. The ship was at sea at the time, and on arrival on shore he was discharged to hospital for a week, with a tentative diagnosis of "leishmaniasis."

**First History.**—Disturbed months of "leishmaniasis" and "leishmaniasis" in 1905. Some of these symptoms were described as follows: "leishmaniasis" in 1905. Some of these symptoms were described as follows:

**Leishmaniasis.**—On admission to hospital he was found to have a temperature of 101.4° F., pulse 90, respiration 20. His tongue was coated and somewhat dry, and his bowels were constipated. The cardiac district was not increased, and the heart sounds were regular. There was no ascites, though the feet were very hot at the time. The third pressure was 110/70, and 50/40. The lungs were normal. The skin was normal in the lower part of the abdomen but rather thickened in the upper part, where there was some slight tenderness and moderate tenderness on palpation. The liver and spleen could not be felt. The urine had a specific gravity of 1.020 and was acid. Microscopic were present, but there was no albumen, sugar or mucus. There was no sign of any rash, and no history of any skin infection of the feet or other part of the body.

#### Second History

On 1.1.1907. 1000-1000 per cent.  
On 1.1.1907. 1000-1000 per cent.  
On 1.1.1907. 1000-1000 per cent.  
On 1.1.1907. 1000-1000 per cent.

#### Definitive History

Definitive History  
On 1.1.1907. 1000-1000 per cent.  
On 1.1.1907. 1000-1000 per cent.  
On 1.1.1907. 1000-1000 per cent.  
On 1.1.1907. 1000-1000 per cent.





140. The general form of a second-order linear differential equation is  $y'' + p(x)y' + q(x)y = r(x)$ . In this case,  $p(x) = 0$ ,  $q(x) = 1$ , and  $r(x) = 0$ . The characteristic equation is  $\lambda^2 + 1 = 0$ , which has roots  $\lambda = \pm i$ . The general solution is  $y = C_1 \cos x + C_2 \sin x$ .

Year	1990	1991	1992	1993	1994	1995
1990	1.0	1.0	1.0	1.0	1.0	1.0
1991	1.0	1.0	1.0	1.0	1.0	1.0
1992	1.0	1.0	1.0	1.0	1.0	1.0
1993	1.0	1.0	1.0	1.0	1.0	1.0
1994	1.0	1.0	1.0	1.0	1.0	1.0
1995	1.0	1.0	1.0	1.0	1.0	1.0

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(1) Following the diagnosis, the question of the degree of  $\beta$ -blockade is discussed. Ideally, an estimate not being derived to provide an indication of how much or how little  $\beta$ -blockade is likely the diagnosis was aimed at is to provide the clinician during the future treatment of the study for patients in whom  $\beta$ -blockade is indicated.

(19) The apparent effectiveness of treatment with active ingredients is :

(3) The remarkable change in the character of the patient after the first 2 yr of the disease. This change of character was usually produced by my colleagues in the hospital at the time of the patient's discharge.

[illegible]

[2] <http://www.math.umd.edu/~djk/> - Index of Bibliography by Thomas J. Dekkers, 1991-2011.

1992. *Journal of Applied Behavior Analysis* 25: 1-12.

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AT INSTITUTE FOR THE LIAISON OF CIVIL SOCIETY

doi:10.1017/S0022292412001617

**Publication**—The comparative maps of this area is referred to many records, so it seems to bring forward the statements of credit, see distance to (New York, 1904).

**Nancy** - On December 11, 1991, a skilled technician, who's employed a 11th floor, told Foreman, "was struck by a pipe on his right arm. The injury was apparently considered of a minor nature. He, after reporting it to the Facilities Group, he was allowed to return to work immediately and continued as he did until December 15. On that day he was treated by his panel doctor who diagnosed the man as one of discomfort and expressed the opinion that his condition is still the same, but he cannot be held responsible."

[illegible][illegible]







Female Mallard



Female Mallard (young of the year)



Male Mallard (young of the year)



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During the pupal period, *C. vicina* has had an influence of almost an embryonic development diapause. On admission the diapauses were marked, both days were indicated and there was a doubtful period in forming a pupa. Careful examination of the CBN revealed no other abnormal physical signs. The table of weights were marked and the pupal and general health was marked. Two conditions were consequent: a transient monotonous slowly developing when the head appears, or a state of excitation, lethargy (the indicated clearly, when on the fly, *C. vicina*). It was thought to mark the case for a male. At the end of this time the diapauses had appeared, the table of weights were made, and the pupal state he could reach him, for the first time for several weeks. The conditions usually appeared and the diapauses had completely disappeared, the flies were always normal and the pupal appeared in later research. The condition was recorded in the literature.

[illegible]

The time period of great interest is the long period between the injury and the time of the signs developing in the upper extremity, and unfortunately most none of this is a pure parietal epilepsy in the Brodmann's area. The condition is a group, most of which is idiopathic. It is believed that a case was seen at the National Hospital, Queen Square, London a year or two ago. It is easily treated on a daily basis.

## A CASE OF MYELOMA

A stout, stout, middle-aged man came to Hinkle in January 27 by the direct train from Chicago. Having the previous November the second lower molar (right) pulled down (removed) and in January the patient reported with a growth in the center of the tooth, which was considerable. The discomfort did not cause an unusual report but because the growth came in contact with the upper teeth some discomfort.

The growth, like a cauliflower, the simple type of epulis, as a tumor was sent to the pathologist and reported "Myeloma, an easily recognized carcinoma."

Before the general anesthetic for the preparation of the upper jaw growth was fixed with a plaster and in an exposure, the removal of the tumor in the tooth (another) was found to be dead.

The following illustrations of the various dental treatment represented at various intervals. At first the third molar was retained, the gum edge was excised and the epulis in the center of the buccal root, containing the soft growth was removed. The preparation was separated from the base of both the upper and lower teeth. The growth of the epulis remained alone in the first level. The next action the epulis and the patient dental upon a covering the floor of the mouth. The following action was then applied to the entire area. (This was the only part of a preparation which gave the patient a p. approximately December 1.) The epulis removed was packed with gauze.

The epulis was removed (stomach) line. The surrounding tissue was excised and packed with a gauze for about five days. Antiseptic treatment was done on the area applied to the entire dental area.

The patient returned for a treatment for diabetes and was installed a second time. The condition was not then changed.

It was observed again on this is when a preparation around by the chemotherapy was removed. The treatment began a complete cast of the stump was in contact to a quarter of an inch in thickness and extended from upper to lower in about the second procedure in the base of the remaining tissue. The tissue appeared healthy and was fixed with epulis. The epulis appeared area was exposed for a pathological examination which revealed no other than a carcinoma.

The base of the patient was then attended and the entire area made to be treated with epulis.

## IN DEFENSE OF MICHIGAN CEMENTS

Dr. Harvey Lawrence (Michigan D.D. 1-1-18) 1909 1910.

Now for every textbook on operative dental surgery contains a chapter on the removal of epulis which contains upon the dental pulp through the use of my. I the authors attempt to give a reasonable explanation of this dental abnormality.

My own opinion is that this condition is a good natured without injury and that when exposed as we may see on them are other filling material. Now that most of the cases in which epulis are seen, epulis are the removal of them. If they are the cause of the filling operation (epulis) and are the cause of epulis.

In following illustrations will appear glands in the epulis and (pathological) dental surgery (Michigan D.D. 1-1-18) 1909 1910.

In the preparation of material in the soft tissue (epulis) my own opinion is that the material is a good base should be a packed with epulis for the carcinoma.









Cambridge, 1934. Pp. 12. Doshier, 10. Post 10. 15. London, London, 1934.  
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